

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

# 1980 ANNUAL REPORT



•EDWARD J. KING, GOVERNOR

•BARRY M. LOCKE, CHAIRMAN



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# ANNUAL REPORT 1980



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The front and back covers were designed by Arthur Edwards and Mac Brodie, respectively, design trainees participating in the MBTA's Southwest Corridor Educational Training Program. The Authority wishes to express its appreciation to both designers for the time and effort that went into their artwork.



**MASSACHUSETTS  
BAY  
TRANSPORTATION  
AUTHORITY**

Board of Directors  
50 High Street, Boston, Mass. 02110

March 31, 1981

To: His Excellency The Governor, The General Court,  
The Secretary of Transportation, and the Advisory Board  
to the Massachusetts Bay Transportation Authority

The Board of Directors of the Massachusetts Bay Transportation Authority, in accordance with the requirements of Section 5(h) of Chapter 161A of the General Laws, hereby submits the Authority's Annual Report covering operations for the calendar year 1980, including a description of the organization of the Authority, its recommendations for legislation and the comprehensive program for mass transportation prepared by the Executive Office of Transportation and Construction. Also included are departmental reports on their accomplishments during 1980.

The Authority faced difficult financial problems right from the beginning of the year because its 1980 operating budget was drastically underfunded by the Advisory Board. Repeated attempts to seek supplemental funds from the Advisory Board were unsuccessful and led, unhappily, to the one-day shutdown of service on December 6. However, by your action in calling a special session of the Legislature, \$41 million was appropriated to carry the Authority's operations through December 31, 1980, and service resumed December 7.

In addition to the net assessable cost of service, there are two other items which must be considered by the 79 cities and towns in their settlement in November, 1981 of their 1980 accounts with the Commonwealth. These are the accounts:

	<u>Without Additional State Aid</u>	<u>With Additional State Aid of \$110,550,274*</u>
Net Assessable Cost of Service	\$197,805,668	\$ 87,255,394
Interest Charged by State Treasurer on Temporary Borrowings (Estimated)	\$ 14,400,000	\$ 14,400,000
Expenses of Boston Metropolitan District	<u>\$ 16,000</u>	<u>\$ 16,000</u>
Net Cost to Communities	\$212,221,668	\$101,671,394

\*House Bill No. 1, the state budget for Fiscal Year 1982 beginning July 1, 1981, provides additional contract assistance of \$110,364,096, subject to legislative approval and appropriation.

The following statement shows the Authority's comparative net cost of service including all elements of cost for calendar years 1980 and 1979.



MASSACHUSETTS BAY TRANSPORTATION AUTHORITY  
COMPARISON OF NET COST OF SERVICE - TWELVE MONTH PERIOD  
CALENDAR YEARS 1980 VS. 1979

	<u>1980</u>	<u>1979</u>	Increase or (Decrease)
Income:			
Revenue from Transportation	\$66,197,081.31	\$56,727,493.69	\$9,469,587.62
Revenue from Other Railway Operations	2,650,449.46	2,263,664.94	386,784.52
Non-Operating Income	13,622,873.62	13,650,718.29	(27,844.67)
Gas & Diesel Tax Reimbursement	478,846.55	431,431.46	47,415.09
Reimbursement from Outside District	<u>3,385,982.00</u>	<u>1,968,721.00</u>	<u>1,417,261.00</u>
TOTAL INCOME	86,335,232.94	75,042,029.38	11,293,203.56
Operating Wages and Fringe Benefits:			
Wages	140,574,029.31	129,721,199.07	10,852,830.24
M.B.T.A. Pensions	21,349,749.00	18,830,410.28	2,519,338.72
Social Security Taxes	9,592,494.91	8,409,994.03	1,182,500.88
Workmen's Compensation	3,441,115.99	2,812,368.22	628,747.77
Accident and Sickness Insurance	438,415.57	431,676.61	6,738.96
Group Life Insurance	694,012.91	670,677.04	23,335.87
Blue Cross - Blue Shield	14,403,365.53	13,590,030.74	813,334.79
Unemployment Insurance	178,800.00	267,362.92	(88,562.92)
Uniform and Work Clothes	587,473.40	541,660.29	45,813.11
Fringe Benefits Cost Capitalized - Credit	<u>(7,588,893.56)</u>	<u>(5,753,121.15)</u>	<u>(1,835,772.41)</u>
TOTAL OPERATING WAGES & FRINGE BENEFITS	183,670,563.06	169,522,258.05	14,148,305.01
Material and Other Items	30,783,585.46	24,755,273.54	6,028,311.92
Injuries and Damages	2,666,761.75	2,517,339.30	149,422.45
Interest on Unfunded Debt	16,553,721.41	11,795,983.69	4,757,737.72
Fuel	22,265,512.49	16,208,764.17	6,056,748.32
Taxes (Other than included above)	881,530.92	864,973.72	16,557.20
Railroad Commuter Subsidy	44,870,591.50	37,997,194.24	6,873,397.26
Local Service Subsidies	1,517,912.23	1,112,287.74	405,624.49
Railroad Commuter Unreimbursed Cost	<u>2,800,000.00</u>	<u>(2,800,000.00)</u>	<u>5,600,000.00</u>
TOTAL OPERATING EXPENSES AND TAXES	306,010,178.82	261,974,074.45	44,036,104.37
Fixed Charges:			
Interest on Funded Debt (M.T.A.)	3,423,191.58	3,686,264.61	(263,073.03)
Interest on Funded Debt (M.B.T.A.)	20,047,185.84	19,235,045.67	812,140.17
Payment on Funded Debt (M.T.A.)	2,723,259.28	2,824,259.27	(100,999.99)
Payment on Funded Debt (M.B.T.A.)	10,710,000.00	9,331,172.87	1,378,827.13
Cambridge Subway Rental (M.T.A.)	10,308.32	5,408.28	4,900.04
Miscellaneous Debits (M.T.A.)	45,691.33	30,429.86	15,261.47
Bank Service Charges (M.B.T.A.)	<u>24,000.32</u>	<u>49,752.26</u>	<u>(25,751.94)</u>
TOTAL FIXED CHARGES	36,983,636.67	35,162,332.82	1,821,303.85
TOTAL CURRENT EXPENSES	342,993,815.49	297,136,407.27	45,857,408.22
COST OF SERVICE IN EXCESS OF INCOME	256,658,582.55	222,094,377.89	34,564,204.66
Less: State Fin. Contact Assistance:			
Chap. 161A of G.L. (Sec. 28) - MTA	3,000,000.00	3,000,000.00	-
Chap. 161A of G.L. (Sec. 28) - MBTA	26,524,495.88	23,840,017.73	2,684,478.15
Chap. 367, Acts of 1978 - MBTA (RR)	-	1,265,024.75	(1,265,024.75)
Chap. 393, Acts of 1979 - MBTA (RR)	2,245,333.00	1,154,667.00	1,090,666.00
Chap. 329, Acts of 1980 - MBTA (RR)	2,453,941.00	-	2,453,941.00
Chap. 329, Acts of 1980 - MBTA	-	83,345,000.00	(83,345,000.00)
House Bill No. 1 Pend. Approval - MBTA	105,851,000.00	-	105,851,000.00
Federal Operating Assistance - Sec. 5	<u>29,328,419.00</u>	<u>27,422,397.00</u>	<u>1,906,022.00</u>
TOTAL ASSISTANCE	169,403,188.88	140,027,106.48	29,376,082.40
NET ASSESSABLE COST OF SERVICE - LOSS	\$87,255,393.67	\$82,067,271.41	\$5,188,122.26




The balance sheet and statement of long-term debt of the Massachusetts Bay Transportation Authority as of December 31, 1980, and the related statements of revenue and cost of service, reimbursed cost of service, and source of disposition of funds for the fiscal year ended December 31, 1980, together with notes relating to these financial statements, are appended to this report.

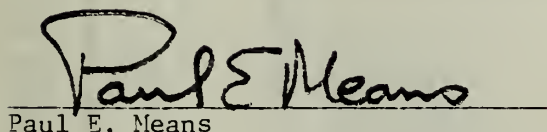
Respectfully submitted,

Board of Directors

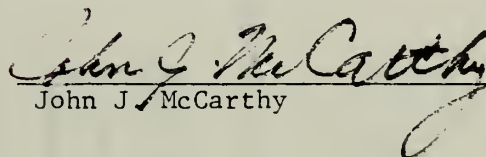
Massachusetts Bay Transportation Authority



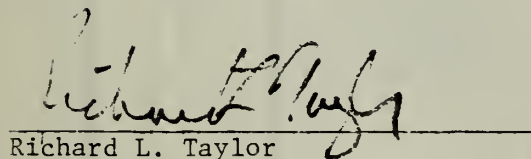
Barry M. Locke  
Chairman



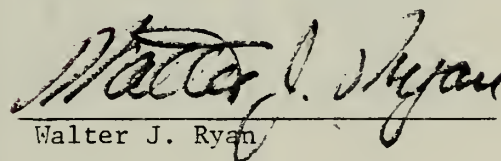
Paul E. Means



John J. McCarthy



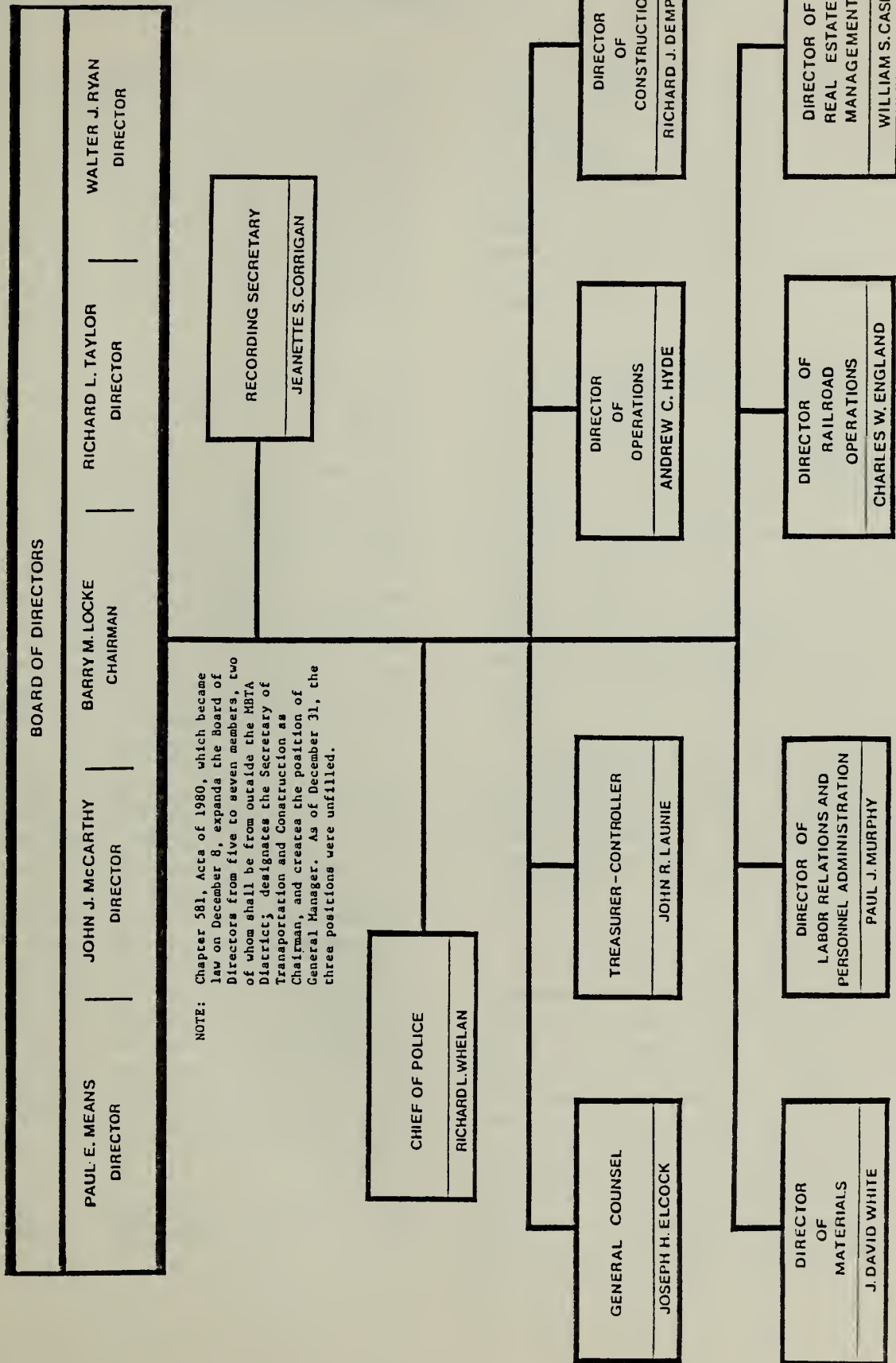
Richard L. Taylor



Walter J. Ryan



# ORGANIZATION CHART





# BOARD OF DIRECTORS

BARRY M. LOCKE, Secretary of Transportation and Construction, was appointed Interim Chairman June 9, 1980, by Governor Edward J. King, following the resignation of Chairman Robert L. Foster. Mr. Locke became permanent Chairman on December 7, 1980, when the Legislature passed MBTA reorganization and reform legislation, specifying that the Secretary of Transportation and Construction shall be Chairman of the MBTA.

Mr. Locke has extensive high level policy-making and administrative experience in the transportation and energy fields, having served in the White House Energy Policy Office after four years as Special Assistant to then U.S. Secretary of Transportation John A. Volpe, for whom he had been Press Secretary when Mr. Volpe was Governor of Massachusetts. Before joining Governor King's Cabinet, Mr. Locke was Executive Director of the Bi-State Development Agency, which has jurisdiction over land, water and air travel in the metropolitan St. Louis-Downstate Illinois area. He also operated the mass transit system serving that region.

PAUL E. MEANS, Stoneham, was appointed to the Board by Governor King in 1979. His appointment was approved by the 65 cities and towns on the Advisory Board and he was sworn in on March 20. He is a former State Representative, having served on the Committees on Insurance and State Administration and as Chairman on the Subcommittee on Public Records. A member of his town's Charter Commission in 1972, he was elected to the Board of Selectmen for 1973-1975 and was responsible for the transportation system in Stoneham. From 1975 to 1978, he was a member of the State Commission on Awarding of Public Contracts.

JOHN J. MCCARTHY, Wakefield, who served on the MBTA Board from 1970 to

January 1978, was reappointed by Governor King on April 27, 1979. He is Executive Secretary and Town Accountant for the Town of Wakefield. In addition to his service with the MBTA, Mr. McCarthy has been President of the Metropolitan Area Planning Council, a member of the MBTA Advisory Board representing Wakefield, and a member of the former State Mass Transportation Commission.

RICHARD L. TAYLOR, Roxbury, was sworn in as a member of the Board on May 18, 1979, following nomination by Governor King and approval by the inner 14 cities and towns on the Advisory Board. Since 1978, he has been Senior Operations Officer for HiPark Development Corporation. A graduate of Boston University, School of Public Communication, in 1971, he was a Rhodes Scholar, Oxford University, from 1971 to 1973. From 1973 to 1977, he completed the four-year master of business administration and juris doctorate program at Harvard Business School and Harvard Law School.

WALTER J. RYAN, Canton, joined the Board on May 18, 1979. Mr. Ryan is business manager of Local 4, Operating Engineers and Chairman of the Committee on Transportation and Energy for the State Labor Council, AFL-CIO.

Under Chapter 581, Acts of 1980, the Massachusetts Legislature added two members to the Board of Directors, both residents of communities outside the MBTA District. On February 9, 1981, Governor King appointed JOHN F. DATOR, Somerset, owner of a real estate and insurance agency in Fall River, and HENRY J. PIECHOTA, Longmeadow, City Auditor/Budget Director for the City of Springfield. Mr. Piechota's nomination was approved by the Advisory Board on February 26, 1981.

# DEPARTMENTAL REPORTS

## EXECUTIVE OFFICE

Governor Edward J. King named Transportation Secretary Barry M. Locke as Interim Chairman and Chief Executive Officer of the Authority in June following the resignation of Robert L. Foster. Chairman Locke initiated a sweeping review of the Authority. Every department was scrutinized, and unnecessary functions, positions, and services were eliminated.

Under Chairman Locke, the Safety Department and Energy Conservation Office, formerly separate entities, were assigned to the Operations Directorate. Media Relations, Public Affairs and Consumer Information, and Sales and Marketing were reorganized into a new Communications Directorate. And, the Board of Directors established an Outer 65 Communities Advisory Panel, providing a direct link between MBTA decision makers and regular transit users.

The Authority implemented a general fare increase for rapid transit, the first in eleven years, on June 30. The ridership decline was less than the predicted three percent, and overall ridership continued to grow as gasoline prices increased. In spite of a 14 percent increase in commuter rail fares in August, ridership was up 17.7 percent over 1979, which was a record ridership year.

1980 was an especially challenging year for the Public Affairs and Consumer Information Division of the Communications Directorate. Faced with numerous service changes, the Division met the task of keeping the MBTA ridership informed and up to date. Twice as many "special" information pieces were distributed as in 1979. Over six million of these were related to fare and service changes. Another 250,000 dealt with changes in regular schedules.

And, some 200,000 Traveler's Aid brochures were prepared.

The Customer Service Center continued to provide an important day-to-day link between the system and its riders. During the year, the Center answered over 410,000 telephone inquiries regarding fares, service, schedules, as well as immediate, emergency and future service changes.

The year was a remarkable one for the MBTA Pass Program. The number of participating employers grew to approximately 800 (740 employers, 50 banks, 10 colleges). They were responsible for monthly pass sales of 75,000 and monthly revenues of more than \$1,500,000. About 55 employers now offer MBTA passes as a low cost, fringe benefit to some 6,000 employees. Some 275 employers have implemented a variable work hours program for approximately 86,000 employees in Greater Boston.

The Pass Program reached a major milestone with the implementation of the Electronic Passreader Project. Plastic, encoded passes were introduced, and electronic passreaders were installed throughout the MBTA rapid transit system. Major efforts were undertaken by the Public Information and Sales and Marketing Divisions to educate passholders about the new system.

Other achievements in 1980 include the registration and processing of 18,000 senior citizens and 8,000 individuals with special needs for MBTA Half Fare Photo I.D. cards; efforts promoting new Blue Line cars and the Massport shuttle bus service; and efforts promoting numerous events which offered discounts to passholders.

# OPERATIONS DIRECTORATE

"Operation Sail '80", part of the five-month-long celebration of Boston's 350th birthday, highlighted the Operations Directorate's achievements in 1980. Through careful planning and intra-agency cooperation, the MBTA successfully moved, without incidents, more people for this one event than for any other event in the Authority's history. From May 30, to June 4, MBTA shuttle bus service operated from various points around the city for the viewing of the Tall Ships' entry into Boston.

Another accomplishment of the Operations Directorate was the opening and dedication of the Red Line's new station in Braintree. Also dedicated was the Braintree Yard, honoring Raymond Caddigan, a retired 33-year employee of the MBTA. Braintree Station has shown a steady increase in ridership to about 3,800 a day, and the 1,200-car parking facility is filled daily.

Substantial efforts were made by the Operations Directorate in 1980 to make transportation facilities accessible to the elderly and the handicapped. "The Ride," a specialized service, expanded to 29 vehicles which provided 74,400 trips for the handicapped in 1980.

A Suburban Bus Transportation Program, which allows low-density MBTA communities to contract with private carriers for intra-community service was administered by this Department in 1980. Five towns - Lexington, Bedford, Winchester, Natick, and Needham - utilized an MBTA subsidy to institute service in their communities. In a 42-system comparison of similar low-density transportation services in the U.S., five of the MBTA systems ranked in the top fifteen, with Lexington ranked as No. 1.

In early April, Operations Directorate personnel assisted the state and the City of Somerville in an emergency evacuation resulting from the rupture of a

railroad tank car containing noxious fumes. The Directorate not only diverted service around the troubled area, but also assisted the Fire and Police Departments by utilizing MBTA buses to evacuate the sick and the aged from nursing homes in the affected area.

On June 30, a new fare system which doubled rapid transit fares and re-introduced the old MTA tokens, became effective. Key management people were on hand to answer inquiries from the public and to help ease the confusion caused by the changeover. Later in the year, new Electronic Fare Collection passes were implemented throughout the system. The first of its kind in the country, the Electronic Pass Reader eliminates free trips and reduces time-consuming delays.

As a result of a wide variety of energy conservation measures instituted in 1979-1980, the Authority realized significant gains in reducing energy waste throughout the system. During the first full year of these energy conservation efforts, electric power, which constitutes the major form of energy used by the MBTA, was reduced by 3.7 percent for a savings of \$700,000. Overall, the improvements in energy efficiency saved over \$2 million and resulted in the award of one of the President's Energy Efficiency Awards.

A reorganization of the Office of Safety and the Training Section in 1980 provided a better means of addressing issues pertaining to public safety and occupational hazards. Two hundred fifty-two Starters and Inspectors completed a safety training program which covered surveillance techniques, arrest procedures, and cardiopulmonary resuscitation (CPR). An additional 371 employees were trained and certified in CPR in 1980, bringing the Authority's total to well over 1,000 since the program's inception in 1978. During 1980, the Directorate continued to play a major role in presenting the Authority's Transit Safety Awareness Program to

children in Boston, Revere, Braintree, and Quincy public and parochial schools.

In 1980, the Directorate placed all 70 of the new Blue Line cars into revenue service. The Orange Line maintained 100 percent of its required cars. The Light Rail Vehicle Program (LRV) made significant improvement in the reliability and availability of the fleet. At the beginning of 1980, there were 102 LRV's in the revenue service fleet. By the end of the year, there were 97 cars in the fleet.

Planned maintenance programs for the President's Conference Committee (PCC) streetcars were extremely limited, and in some cases, they were cancelled as a result of budgetary problems. However, by using available manpower and funds, a program was initiated to rehabilitate the PCC "Picture Window" cars. By the close of the year, three cars were completed and seven were in various stages of completion.

The condition of the PCC's, combined with the extremely cold weather during the week of December 21, 1980, resulted in a record low availability of only 22 on December 24-25. This necessitated the removal of the PCC Cars from revenue service on December 25. As replacements, seven LRV's were transferred from the Riverside Carhouse to the Reservoir Shop for service on the Beacon Street Line.

Trackless trolley operations remained relatively stable throughout the year. Of the 50 cars in the revenue service fleet, approximately 42 were available for daily service.

Significant progress has been achieved in controlling overtime costs. The number of overtime hours expended in 1980 as compared to 1979 were reduced by 36% and the cost of those hours were reduced 30% for a savings of \$2,629,444.

The Transportation Department only achieved a slight decrease in the number

of absence hours - 2.5%. It has dramatically increased the number of suspension hours for discipline purposes by 53.9%.

Another major event in 1980 was the delivery of 127 new buses. Not only did these new buses increase vehicle availability, but they also allowed the Authority to sell or scrap many older, costlier-to-maintain buses. In addition, a \$14 million capital grant was approved by the Urban Mass Transportation Administration for the structural rehabilitation of 84 A.M. General Buses.

In other Operation matters, the Directorate completely rebuilt the overhead power system along Huntington Avenue from Northeastern University to Brigham Circle. The entire construction project was completed two months ahead of schedule and under budget. New trackless trolley lanes were installed in the Watertown Yard, and the Orange Line structure tie and timber replacement program was completed in one season with the installation of over 5,000 ties, a record for the Authority.

Productivity was improved through the full operation of the new Rail Fabrication Facility. Over 57,600 feet of rail was fabricated from the time the building became occupied. Also, through the implementation of a Beneficial Employees Suggestion Program, over 292 employees had perfect attendance in 1980.

Other accomplishments of the Operations Directorate were as follows: the updating of 7,400 bus stop signs to conform with new public information guidelines, the development of an orderly parking plan and bus turnaround at Needham Junction, the dissemination of a Uniform Discipline Code to all Operations Directorate employees, the June 14 closing of the Somerville Garage and the transfer of all buses to the Charlestown Garage Complex, extra service and late night service for special events, celebrations and esplanade concerts, and substitute service along Huntington and Commonwealth Avenues during Green Line reconstruction.

# RAILROAD OPERATIONS DIRECTORATE

The Railroad Operations Directorate worked to make service more cost-effective in 1980. Although fares were raised and some routes eliminated, two important routes were extended. The Authority used careful criteria in making the changes, and as a result, ridership increased 17.7 percent from 1979.

With the cooperation of the State of New Hampshire, rail service was extended from Lowell to Concord, New Hampshire, on the New Hampshire Main Line in January. An extension from South Acton to Gardner on the Fitchburg Main Line opened the same month under a service agreement with the Massachusetts Regional Transit Authority.

In September, some mid-day and week-end trains which had shown very low ridership were discontinued. The reductions were worked out in cooperation with the Commuter Rail Sub-Committee of the Advisory Board. They affected a very small portion (less than four percent) of total train ridership.

Fare increases projected to bring in an additional \$1.6 million to \$1.8 million

annually were initiated in late summer. Fourteen percent increases went into effect on August 10 for one-way and 12-ride tickets and on September 1 for monthly passes.

The Directorate continued its efforts to upgrade and maintain equipment. Five new F-40PH locomotives were added to the fleet in late December. In addition, a program to rebuild 32 Budd rail diesel cars (RDCs) as trailer coaches was launched. Bids were solicited and components were ordered for the project which is scheduled to be completed in December 1981. If funds become available, the program will be extended to the remaining 61 RDCs. At the Boston Engine Terminal, freight locomotive maintenance was eliminated so that the facility could be used exclusively for passenger equipment maintenance.

Finally, the Directorate hired a consulting firm to review the MBTA's Operating Agreement with the Boston & Maine Corporation. The present Operating Agreement is due to expire at the end of 1981.

## TREASURER-CONTROLLER'S DEPARTMENT

Working with the Operations Directorate, the Treasurer's Department assisted in the successful implementation of the rapid transit and commuter rail fare increase. Rapid transit revenues were projected to increase by more than \$15 million, commuter rail revenues, by \$1.3 million. However, the fare increase and the switch to a token system brought added expenses for the Department, as the Revenue Collection Division was required to spend a considerable amount of overtime dollars to process the increased volume of coins.

In January, Multisystems Inc., began to develop and design a new on-line accounts payable system to speed the processing of vouchers, aid in cash flow management, and provide management with a

greatly expanded ability to monitor departmental budgets.

The Capital Audit staff continued to perform high quality pre-audits and final audits of consulting and construction contracts. Early in the year, the Internal Audit Division began performing audits that provided operational managers with objective comments and suggestions for improving efficiency and economy.

The Capital Program Control Section continued to improve the management efficiency of capital funds by increasing, from 30 to 41, the number of grants billed to UMTA by Letter of Credit. In addition, the overall productivity of the Section continued to improve despite the increased work load associated with the additional 10 grants received from various agencies during the year.

# CONSTRUCTION DIRECTORATE

Nearly \$320 million in grants was awarded by the Federal Urban Mass Transportation Administration (UMTA) in 1980, representing an increase of more than \$31 million over 1979.

Construction contracts, totaling \$227 million, were awarded in 1980, representing an even larger annual growth of \$50 million.

The largest single grant award of \$85 million was targeted for the Red Line Northwest Extension from Harvard Square to Alewife Brook Parkway, while several combined awards totaling \$98 million were granted for the Southwest Corridor Relocation Project.

In addition, nearly \$40 million was earmarked for the purchase of rapid transit cars and buses and modernization of Presidents' Conference Committee (PCC) cars.

The 3.2-mile Red Line Northwest Extension Project, for which total committed federal funds amount to \$350 million, made significant progress during 1980. A \$75 million contract -- the largest to date -- was awarded for construction of the Alewife Station/Garage Complex. Other major contracts awarded for this project included: Porter Square Station (\$44 million), Power System (\$16 million), and the double track tunnel from Davis Square to Harvey Street (\$32 million).

On the southern extension of the Red Line, the opening of the new Braintree Station/Garage Complex in South Braintree on March 22, 1980, marked the culmination of a four-year, \$53 million project. The combination station and garage provides parking for 1,200 vehicles and rapid transit service for more than 4,500 daily riders.

Construction began on the \$35 million Quincy-Adams Station/Garage complex at

Routes 3 and 128 in South Quincy. Revenue service is scheduled to begin in 1981.

The Orange Line Relocation Project, the 4.7 mile project to move the Orange Line to the Shore Line railroad right-of-way, is expected to be the largest single construction project undertaken in Massachusetts history. During 1980, nine demolition, site preparation and utility relocation contracts, totaling \$62.5 million, were awarded for this \$886 million, federally-funded project. The project entails a wide range of programs designed to stimulate economic stability in the neighborhoods through which the rail lines will pass. Some programs that were advanced during 1980 were the Educational Training Program, which provides architectural and engineering experience to local young adults; the anti-vandalism CETA-sponsored program; and Minority Business Enterprise conferences, designed to acquaint minority businessmen with planned construction activity.

The on-going \$930 million Systemwide Improvements Program realized tremendous growth during the year, especially in the station modernization effort, the up-grading and construction of maintenance and vehicle support facilities, plus the power, plant, and commuter rail improvements.

The \$91 million Station Modernization effort reached a significant milestone at year's end with the completion of the design/development phase for nine stations, thus paving the way for construction at two of the stations in 1981. The program involves platform lengthening to accommodate six-car trains and general aesthetic improvements within the station areas.

During the year, the Boston College/Lake Street Maintenance Facility and a new station on the Commonwealth Avenue Line were completed. Also completed were a new bus garage, wash equipment, and a bus

repair building at the Charlestown Maintenance Facility. Construction began for the new Reservoir Carhouse and storage yard.

Under the Power Improvements Program, major accomplishments during 1980 included: completion of the Everett Power Substation and the South Boston and Lincoln Switching Stations; a \$10 million contract award for five new power substations which, when completed, will produce more efficient 60 hz power, and the initiation of rehabilitation work to improve power production at the Coolidge/Newbury Substation.

Reconstruction of the Green Line's Commonwealth Avenue Branch between Kenmore Station and Boston College was completed in December. In addition, the rehabilitation of the South Huntington Avenue and Heath Street sections of the Arborway Line were completed and work on the Heath Street Loop (trolley turnaround) began.

On the Red Line, engineering started for the major upgrading and safety improvements on the Dorchester Branch. These improvements are scheduled to be undertaken simultaneously with tunnel rehabilitation work between Fields Corner and Ashmont Station. During construction, the Dorchester Branch will be closed. Buses will substitute along the route.

Under the Commuter Rail Improvements Program, major contracts were awarded for rebuilding of track and rehabilitation of signals on the Fitchburg Main Line, as well as track rehabilitation on the Gloucester Branch. Track improvements

were completed on the old Boston to Albany Railroad Line to Framingham and on the Ipswich Branch of the Eastern Route. New MBTA commuter rail layover facilities were put into service at Rockport and Franklin. The facilities provide 480 volt A.C. power to new coaches and new or rebuilt locomotives so that trains do not have to idle when not in service.

The Urban Mass Transportation Administration and the Federal Railroad Administration contributed \$33 million in 1980 toward the multi-modal South Station Transportation Center for the MBTA commuter and Amtrak Inter-city trains and intercity and MBTA buses. Construction is scheduled to begin in June 1981 and completed in late 1983.

An interim bus terminal was completed in Dewey Square for Trailways buses which were forced to move from Park Square due to construction of the new state Transportation Building. Trailways' permanent terminal will be located in the South Station Transportation Center.

In order to effectively control costs and maintain construction schedules, a new computerized control system was implemented and successfully tested in 1980. Initially designed by Directorate personnel, the Cost and Schedule Control System (CASC) is a management information system divided into 10 smaller sub-systems. Each sub-system is designed to support and expedite the daily document-processing functions of individual construction projects, while contributing to the continued updating and maintenance of a readily available management reporting printout.

# 1980 CONSTRUCTION CONTRACTS

AWARDED		DESCRIPTION	CONTRACTOR	AMOUNT
Jan.	17	Section One Demolition Boston-Southwest Corridor Project	John Mahoney Construction Co., Inc.	782,220.00
Jan.	18	Demolition, Alewife Area, Cambridge-Red Line Northwest Extension Project	Jay-Mor Wrecking Co.	35,990.00
Jan.	18	South Station Interim Bus Terminal, Boston	Patrick F. Walsh & Sons, Inc.	1,051,000.00
Mar.	24	Haul Road, Harvey Street to Rindge Ave. Extension Cambridge-Red Line Northwest Extension Project	G. Conway, Inc.	611,926.50
Mar.	24	Section One Carter School, Demolition and Reconstruc- tion, Southwest Corridor	W.T. Rich Co., Inc.	865,900.00
Apr.	11	Eastern Line Repairs to Rail- road Drawbridge and Approach Trestles, Beverly and Salem	Rev-Lyn Contracting Co.	642,687.00
Apr.	14	Conversion of Existing Wet Pipe Sprinkler System, To a Dry-Pipe Sprinkler System, Cabot Bus Storage Area, Cabot Maintenance Center, So. Boston	Automatic Sprinkler Corp. of America	36,364.00
June	2	Boston Main Interceptor Sewer Protection, Boston-Southwest Corridor Project	Wes Construction Corp.	409,560.00
June	18	Interim Back Bay Station Boston-Southwest Corridor Project	John Mahoney Construction Co., Inc.	866,790.00
June	20	Tunnel, Davis Square to Harvey Street, Cambridge and Somerville-Red Line Northwest Extension Project	JV: J.F. White Contracting Co., Morrison-Knudsen Co., Inc., Mergentime Corp.	32,773,027.00
June	20	Alter and Rehabilitate Build- ings and Furnish Miscellaneous Materials for two Sub-Stations- Metropolitan Boston Area.	James Farina Corp.	2,517,000.00
June	20	Commonwealth Ave. Line Track Improvements, Boston	J.F. White Contracting Co.	3,674,280.00
June	25	Section II, Stony Brook Recon- struction (Roxbury Crossing)- Southwest Corridor Project	The Modern Continental Construction Co., Inc.	3,687,190.00

AWARDED		DESCRIPTION	CONTRACTOR	AMOUNT
June	26	Replacement of Wood Decking and Support Timber at Northampton & Dover Elevated Stations on the Orange Line	J.M. Cashman, Inc.	164,140.00
June	30	Boston to South Acton Track Rehabilitation on the Fitchburg Main Line	Atlas Railroad Construction	5,362,649.00
July	15	Removal & Installation of Blue Line Train Washer at Orient Heights Carhouse	A.J. Robicheau Construction Co., Inc.	156,695.00
Aug.	6	Braintree Station Security Surveillance Television System	Edward G. Sawyer, Co., Inc.	153,000.00
Aug.	14	Reservoir Station & Upper Yard, Phase I	J.F. White Contracting Co.	5,566,415.00
Aug.	14	Charlestown Light Maintenance Shops	J.F. White Contracting Co.	4,096,238.00
Aug.	14	Track Rehabilitation & Bridge Repairs on the Gloucester Branch from Beverly Junction to Rockport	J.F. White Contracting Co.	5,465,625.00
Sept.	16	Heath Street Loop Reconstruction	The Modern Continental Construction Co., Inc.	557,000.00
Sept.	19	New Materials Warehouse Facility at Everett	W.T. Rich Company, Inc.	352,181.00
Sept.	29	Installation of Heavy Duty Car Truck Hoists at Main Repair Shop, Everett	A.J. Robicheau Construction Co., Inc.	342,850.00
Oct.	6	Erect Buildings & Furnish Miscellaneous Materials for 5 Sub-Stations in Metro Boston	James Farina Corp.	10,342,850.00
Oct.	30	Immediate Needs Renovation to Bartlett St. Garage, Boston	W.T. Rich Company, Inc.	979,700.00
Dec.	1	Power Systems & Substations-Red Line Northwest Extension	JV: Lord Electric Co., Inc., Mass Electric Construction Co.	16,471,294.00
Dec.	1	Alewife Station/Garage Tunnel-Red Line Northwest Extension	Perini Corporation	78,282,984.00
Dec.	5	Reconstruction of Needham Junction Parking Lot	Lawrence-Lynch Corp.	31,150.00
Dec.	11	Systemwide Fire Protection, Dry Standpipe Systems & Tunnels, Boston and Cambridge	B. Snyder & Co., Inc.	1,560,285.00
Dec.	22	New Car Hoisting Facility at the Orient Heights Car House, East Boston	Rich Construction Corp.	498,000.00
Dec.	31	Section One, Line Construction Part A-Southwest Corridor Project, Boston	Schiavone Construction Co.	48,976,540.00
TOTAL				\$227,063,980.50

# 1980 FEDERAL GRANTS

<u>PROJECT DESCRIPTION</u>	<u>FEDERAL SHARE</u>	<u>LOCAL SHARE</u>	<u>TOTAL</u>
<u>UMTA SECTION 3 CAPITAL GRANTS</u>			
Rehabilitation 50 PCC Cars	5,075,672	1,268,918	6,344,590
Charlestown Bus Garage, Amendment #2	4,551,824	1,137,956	5,689,780
Track Improvements, Amendment #2	12,339,232	3,084,808	15,424,040
Modernization of Red Line Cars	2,000,000	500,000	2,500,000
Power System Improvements, Amendment	9,116,000	2,279,000	11,395,000
Everett Maintenance Facility, Amendment #2	7,401,408	1,850,352	9,251,760
Station Modernization III, Amendment #1	1,486,184	371,546	1,857,730
37 Transit Buses	4,500,000	1,125,000	5,625,000
South Quincy Rapid Transit Station, Amendment #2	2,700,000	675,000	3,375,000
Kendall Station, Amendment #1	6,000,000	1,500,000	7,500,000
North Shore Transit Blue Line Engineering	2,500,000	625,000	3,125,000
Commuter Rail Improvements Program III (Signaling)	522,368	130,592	652,960
Modernization of South Station Rapid Transit Station, Amendment #1	9,000,000	2,250,000	11,250,000
Tunnel Rehabilitation, Amendment #1	<u>6,607,312</u>	<u>1,651,828</u>	<u>8,259,140</u>
SUBTOTALS	73,800,000	18,450,000	92,250,000

## INTERSTATE TRANSFER GRANTS (Section 23)

Modernization of Red Line Cars	8,000,000	1,411,764	9,411,764
Orange Line Relocation, Amendment #3	77,789,377	13,727,538	91,516,915
Purchase 190 Rapid Transit Cars, Amendment #3	15,823,275	2,792,345	18,615,620
Orange Line Relocation, Amendment #2	20,245,145	3,572,673	23,817,818
Midlands/Dorchester Branch Railroad, Amendment #1	3,550,535	626,565	4,177,100
Red Line Northwest Rapid Transit, Amendment #4	<u>85,000,000</u>	<u>15,000,000</u>	<u>100,000,000</u>
SUBTOTALS	210,408,332	37,130,885	247,539,217

<u>PROJECT DESCRIPTION</u>	<u>FEDERAL SHARE</u>	<u>LOCAL SHARE</u>	<u>TOTAL</u>
<u>SECTION 5 CAPITAL GRANT</u>			
56 Transit Buses	6,329,770	1,582,443	7,912,213
<u>SECTION 5 OPERATING ASSISTANCE</u>			
Commuter Rail Operating Assistance	4,530,908	24,904,692	29,435,600
Operating Assistance Year 1979	<u>22,891,488</u>	<u>190,726,385</u>	<u>213,617,873</u>
SUBTOTALS	27,422,396	215,631,077	243,053,473
<u>UMTA TECHNICAL STUDIES GRANT</u>			
Axle Stress Study	80,000	-	80,000
Rock Chamber Lining Research Study	<u>20,599</u>	<u>-</u>	<u>20,599</u>
SUBTOTALS	100,599	-	100,599
<u>UMTA MANAGERIAL GRANT</u>			
Training	25,797	8,874	34,671
TOTALS	<u>\$318,086,894</u>	<u>\$272,803,279</u>	<u>\$590,890,173</u>

# POLICE DEPARTMENT

On August 19, Chief of Police Richard L. Whelan, former Deputy Director of the Massachusetts Committee on Criminal Justice, succeeded former Chief John V. Dow.

Operation Rainbow, a plainclothes police operation aimed at curbing crimes against passengers, was launched in May with immediate and significant results. Over 100 arrests were made from May to November, and there was a high percentage of court convictions. A joint venture of the MBTA police, the Boston Police Department, and the District Attorney's office, Operation Rainbow utilized undercover policewomen as decoys to lure pickpockets and purse-snatchers who were apprehended by plainclothes policemen as soon as the criminal act was accomplished.

During 1980, an aggressive program of checking transit stations was initiated. Mobile patrol units made random checks at stations, with emphasis on known trouble spots.

Overall, the Department apprehended a record number of criminals during 1980. There were 540 arrests, a 55 percent increase over 1979. Other crime statistics show decreases in some categories and increases in other areas. A crime information computer, installed in March, made department personnel more aware of criminal incidents.

Comparative Statistics follow:

<u>CRIME</u>	<u>1979</u>	<u>1980</u>	<u>Change</u>
HOMICIDE	0	1	0 to 1
RAPE	2	6	2 to 6
ROBBERY	611	705	+15.4%
ASSAULT	247	312	+26.3%
B & E	189	173	- 8.5%
LARCENY	1913	2033	+ 6.3%
AUTO THEFT	81	78	- 3.7%

Pickpocketing, which is a large part of the Larceny figure, showed a 12.4 percent decrease, from 1437 in 1979 to 1259 in 1980. Attempted larceny on coin boxes and turnstiles accounted for 514 incidents in 1980, compared with 95 in 1979.

The incidence of crimes committed with a weapon decreased during 1980. Robbery with a gun decreased by 13.7 percent; robbery with a knife decreased by 25.6 percent, and assault with a gun, by 44.4 percent.

A major increase was noted in unarmed robbery, 554 of the 705 robbery incidents. Unarmed robbery includes chain snatches, which showed a decline after the establishment of Operation Rainbow.

The position of Community Services Officer was established in 1980 to meet with community groups, neighborhood organizations and business institutions to inform transit riders of crime prevention and defense techniques. The Explorer program, which combines the principles of scouting with specific interest in transit and transit policing, was reactivated.

Two police sergeants completed the Command Training Program at Babson College in Wellesley. This three-week program provided a background in communication, management and law enforcement issues. The 1980 "Officer of the Year" award was presented to Patrolman Joseph Mastorilli for his outstanding performance with MBTA Police Force.

## MATERIALS DIRECTORATE

The Directorate produced a material cost savings of over \$400,000 in 1980. This was the result of a value analysis program and the Directorate's development of alternate supply sources for material previously procured from a single supplier. In addition, the Directorate's inventory control system went "on line" and a system control center was developed during the year.

The delivery of new cars for two of the Authority's three rapid transit lines also highlighted the year. By year's end, all 70 of the new Blue Line cars and six of the 120 new Orange Line cars had been received from the manufacturer, Hawker-Siddeley Canada, Ltd. The estimated value of the cars is \$110 million, \$40 million for the Blue Line cars and \$70 million for the Orange Line cars.

To insure adequate control of the \$4-\$5 million worth of component parts for the new cars, the Everett Storeroom was expanded. In addition, a new storeroom was set up in Waltham to handle inventoried material and modification parts for the Light Rail Vehicles (LRVs).

Under the Minority Business Development Program, the Directorate placed more than \$900,000 worth of business with minority-owned firms.

All materials were acquired for the Automotive Maintenance Department's accelerated Bus Engine Rebuild Program and for the Gearbox Rebuild Program for the Red Line's Cambridge-Dorchester cars, underway at the Cabot Shops.

# PERSONNEL DEPARTMENT

Acting as a liaison between the Authority and its employees, the Labor Relations Section of the Personnel Department seeks to maintain fairness and equity while protecting the Authority's management rights and financial well-being. The Section proved remarkably successful in meeting these difficult and sometimes conflicting goals in 1980.

During the year, Labor Relations negotiated changes in seven collective bargaining agreements covering about 1,300 employees. Several unions, in most cases representing small numbers of employees, went to mediation and arbitration when agreements had not been reached by year's end. Two new employee organizations, one representing starters and inspectors and the other unaffiliated foremen, entered into initial agreements with the Authority.

In a set of important long-range developments, Labor Relations and Local 589 went to arbitration on a new Pension Agreement affecting all employees, and the Authority began negotiations with Local 589 and several other unions for new collective bargaining agreements.

The Section established new, equal opportunity, hiring guidelines for bus operators in August. Of every 10 opera-

tors hired, five are to be men, two minority males, and three women. The guidelines were applied to a list of 932 potential operators (240 white males, 267 minority males, and 425 women) who passed a screening test earlier in the year. In addition, eligibility lists for various job classifications were established by promotional, competitive, written examinations.

The Department of Public Utilities, in an effort to ensure passenger safety, handed down a ruling limiting the working hours of all motormen and operators on rapid transit and surface rail lines. These employees may not work more than 16 hours within a 24-hour period, 44 hours in a 72-hour period, or 60 hours in a seven-day week.

The Authority's clinic conducted 6,032 physical examinations during the year. Of these, 4,733 were related to regular annual examinations and Worker's Compensation cases. Another 1,299 were connected with the pre-employment screening process. And 1,305 came from outside referrals in special compensation cases.

Worker's Compensation claims continued to escalate. The following table shows the claims incidence and the weekly benefit rate from 1977 through 1980:

YEAR	NUMBER OF CLAIMS	WEEKLY BENEFIT RATE	
		(Jan.)	(Oct. 1)
1977	2,376	\$140.00	\$150.00
1978	2,413	\$150.00	\$211.37
1979	2,395	\$211.37	\$227.31
1980	2,464	\$227.31	\$245.48

Through the Position Vacancy Notice Program, the Personnel Services Section kept employees aware of job openings within the Authority, encouraging them to make better utilization of their training and skills. This Section also conducted numerous contract analyses and restructured several union wage schedules at a substantial financial savings to the Authority. Design-services proposals for the Organization Analysis and Development Study and an Executive Evaluation and Compensation System were also solicited.

For several years, the Personnel Department has been the Authority's representative on several training and

development committees. As a result of these affiliations, the Authority obtained standardized training programs for bus drivers and mechanics. The former was implemented last July, and the latter was turned over to the Automotive Maintenance Section.

The Employee Services Section continued to provide counseling for employees and their families suffering from alcoholic, drug, or behavioral problems. During 1980, 110 new clients enrolled in the program. Training sessions were held for supervisory and management employees at various work locations to assist them with similar problems.

## REAL ESTATE MANAGEMENT DEPARTMENT

The Marketing Division of the Real Estate Management Department accomplished several goals during 1980, such as: renegotiation of billboard rental rates, resulting in a 33 percent increase; preparation of bid specifications for a transit advertising contract that guarantees a minimum of \$1 million per year to the Authority which is an increase of \$700,000 annually over previous contracts; review and update of utility license fees for all MBTA property; review and update of expired leases and rental rates; and creation of a vendor-identification program for all authorized vendors on Authority property.

The Right-of-Way Division acquired a significant number of properties required by the Southwest Corridor Project which necessitated the relocation of several

families and businesses. The Division also began work on property acquisition and relocation required by the Lowell Commuter Rail Program and other construction programs.

The Land Management Division appraised 264,000 square feet of waterfront land at the South Boston Power Station. The Division also informed all residents and abutters along the Fitchburg Main Line and the Gloucester/Ipswich Branch about the private grade crossings that will be repaired and improved by the Commuter Rail Improvement Project. In late 1980, the Land Management staff developed plans to relocate the Clinic/Worker's Compensation from 45 High Street to 21 Arlington Avenue, Charlestown, and also planned space allocation for the MBTA in the new State Transportation Building in Park Square.

# LAW DEPARTMENT

As the morass of federal, state and local regulations continued to grow in 1980, the Law Department was often called upon to assist the Authority's various departments in interpreting and applying a wide variety of rules. Regulations and laws relating to the environment, land use, consumer protection, discrimination, public hearings, construction, and mass transit are among those which affect the Authority.

The Law Department has been highly successful in preventing delays on construction projects due to legal challenges. The Department argued successfully against an injunction that would have postponed the opening of the Red Line's new Braintree Station until a new street is built. Although the Harvard Square to Alewife Red Line extension has been challenged for alleged noise pollution, construction has continued. The case remains to be settled.

On yet another construction matter, the low bidder, who was found to have inadequate minority participation, challenged a 1976 contract award to the second lowest bidder for work on the South Cove Tunnel Project. Although the case is still awaiting trial on the merits, the Federal Court's preliminary findings were against the Authority. The court ruled that there was an insufficient finding of past unlawful discrimination against minority bidders to justify an award to the second bidder but indicated that the unsuccessful bidder's damages should be restricted to bid preparation costs.

Community groups and the MBTA Advisory Board brought suit to delay fare increases ordered by the Authority in the summer of 1980. Argued on environmental grounds, the suit failed to prevent the increases.

In two additional suits against the Authority, the Advisory Board challenged

the Executive Orders of 1979 and 1980 which kept the system operating after Advisory Board-approved funds ran out. The Court held for the Advisory Board in the 1980 case but in the 1979 case held that the Legislature ratified the Governor's action and so denied the Advisory Board relief for their 1979 assessments.

Following the Supreme Judicial Court's order closing down the MBTA on December 6, the General Court enacted Chapter 581 of the Acts of 1980. Under the Act, the state assumed three-fourths of the costs of operating the system through the end of the year, with the cities and towns paying the remainder. The 28 unions representing the Authority's employees filed suit challenging the "management rights" provisions of the Act.

In other labor matters, the Law Department defended the Authority in discrimination suits and suits brought by discharged employees. The Authority's action challenging an arbitrator's decision that Chapter 405 of the Acts of 1978 violates the labor protection guarantee section of the Urban Mass Transportation Act has been brought before the state Supreme Judicial Court. Local 589's action seeking to uphold the arbitration award will proceed in U. S. District Court.

Working with the Special Needs Office, the Department helped to develop a 30-year plan for making the system handicapped accessible and for hiring more handicapped employees. While the Section 504 Transition Plan is being implemented, the Authority will offer transportation services to the handicapped through "The Ride", a program to be operated by either Them, Inc., or by Local 589 employees depending on a decision of the court. The Authority's efforts in this regard take on added significance in light of the recently approved state constitutional amendment prohibiting discrimination against the handicapped.

The Claims Section of the Department handled a voluminous caseload in 1980. Three thousand eight hundred twenty-two claims, 1,311 Superior Court suits, and 2,974 municipal and district court suits were pending at the end of the year. The

estimated value of pending claims and suits for injuries and damages as of December 31 totalled \$16,406,385. During the year, \$2,666,764 was paid for damages and injuries.

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## COMPREHENSIVE PROGRAM FOR MASS TRANSPORTATION

The MBTA must comply with planning and programming requirements established by State and Federal Law.

At the state level, the Executive Office of Transportation and Construction (EOTC) is responsible for the Comprehensive Program for Mass Transportation in accordance with Chapter 161A, Section 5(g) and (h) of the General Laws of the Commonwealth, as amended by Section 7 of Chapter 1140, Acts of 1973.

The statute states that the Authority's capital investment program and plans for mass transportation "shall be developed in consultation and cooperation with the Authority, and in consultation with the Executive Office of Communities and Development, the Metropolitan Area Planning Council, and such other agencies of the Commonwealth or the Federal Government as may be concerned with said program and plans." The program and any revisions are subject to the approval of the Advisory Board.

The program must include a long-range plan for the construction, reconstruction, or alteration of mass transportation facilities within the Authority's district; a schedule for the implementation of the program; and comprehensive financial estimates of cost and revenues.

The current Program for Mass Transportation remains that approved by the Advisory Board on December 21, 1978.

To comply with Federal requirements, the MBTA, as one of the six agencies constituting the Metropolitan Planning Organization (MPO), cooperated with those other agencies in the preparation of several required certification documents: The Prospectus, the Unified Planning Work Program, the Transportation Plan (Long-Range Element and Transportation Systems Management Element), and the Transportation Improvement Program. All of these documents were revised and approved by the MPO during 1980.

# 1980 LEGISLATION

The most important legislation affecting the MBTA was the reorganization bill (Chapter 581, Acts of 1980) passed at a Special Session of the General Court and signed by Governor Edward J. King on December 7, following a one-day, system-wide shutdown. The legislation provided a \$41 million appropriation for operations through the end of the year. It also provided for the strongest management reforms ever achieved in the MBTA's history.

The law further stipulates that:

- The Board of Directors shall appoint a General Manager who shall be approved by the Advisory Board.

- The Board of Directors shall be expanded from five to seven members with two of the seven to be from outside the MBTA District and the Secretary of the Executive Office of Transportation and Construction to be Chairman of the Board.

- The outer 65 cities and towns shall have the option to contract for service with private carriers.

- A Designee of the Governor shall serve on the Advisory Board and have a vote equal to that of the largest community (Boston).

- Management shall have the inherent, non-negotiable right to direct, appoint, assign, employ and promote employees; plan and determine levels of service; direct, supervise, control and evaluate departments and programs; ascribe duties and standards of productivity for all positions; determine levels of staffing and training; determine whether goods or services should be made, leased, contracted for, or purchased; assign overtime; hire part-time employees.

- The Authority is prohibited from entering into any agreements to allow pension benefit payments to include overtime earnings.

- The Authority is prohibited from entering into a contract which provides for automatic cost-of-living salary adjustments.

- The Authority is no longer required to provide a doorman (guard) for every two cars of a passenger train.

- The Authority shall establish a productivity and conduct committee for each bargaining unit, consisting of management and labor, which shall recommend the establishment of standards of productivity and conduct of employees.

- The voting formula used by the MBTA Advisory Board shall be changed to give the smaller communities in the MBTA District more influence and greater weight in the voting.

- No new employees shall be hired unless there exists a critical need as certified by the Secretary of Administration and Finance.

- The four percent cap on the operating budget shall remain in effect for the next two years.

Other state laws affecting the Authority included an act relative to the length of motor buses; an act regarding notes issued by the Commonwealth to finance payments to the MBTA; an act granting easements and land interests to the Authority for the construction of the Red Line Northwest Extension; and an act limiting state and local taxation and expenditures, popularly known as Proposition 2-1/2.

# 1981 LEGISLATIVE PROGRAM

Approved by the Authority's Board of Directors, the following legislative proposals were filed for consideration by the 1981 General Court:

1. AN ACT authorizing and directing the Metropolitan District Commission (MDC) to convey certain parcels of land in Somerville and Medford to the MBTA and to grant permanent surface and subsurface easements for drainage purposes.

This legislation is necessary in order to comply with the agreement between the MDC and the MBTA, dated December 8, 1972, and with Article 97 of the Amendments to the Constitution, which requires legislation to transfer any interest in park land from one governmental agency to another.

2. AN ACT further regulating smoking in public conveyances and certain premises.

The 1968 statute contains language that a person must be requested to cease smoking. This led to many confrontations between an alleged offender and the police. The proposed legislation deletes the language requiring the request.

3. AN ACT authorizing and directing the MDC to convey to the MBTA certain parcels of land in Boston for construction of the Southwest Corridor Project.

This involves two MDC park properties which are necessary for construction of the Southwest Corridor Project. Article 97 of the Amendments to the Constitution requires legislation.

4. AN ACT amending the law relative to the use and occupation of certain land in Cambridge by the MBTA.

Chapter 298 of the Acts of 1976 requires the MBTA to vacate parcel 1B of the former Eliot-Bennett Street Yards no later

than February 1979. Said Chapter also requires a certain rent to be paid by the Authority for parcel 1B. The proposed legislation, if adopted, would extend the occupation time on parcel 1B to February 1982 and would delete the rental requirement.

5. AN ACT relating to the issuance of refunding bonds by the Boston Metropolitan District.

This legislation would authorize Trustees of the District to issue and sell refunding bonds notwithstanding present limitations imposed by law.

6. AN ACT relative to parking violations on MBTA property.

This proposal would give MBTA police officers the power to tag for parking violations on MBTA properties.

7. AN ACT relative to the removal of motor vehicles impeding the operation of the MBTA.

This legislation specifically authorizes the MBTA to tow illegally parked vehicles and to collect any fines or costs thereof.

8. AN ACT providing that procedure against certain violators of motor vehicle laws be extended to include the MBTA Police Department.

This would allow MBTA police to cite motor vehicle driving infractions.

9. AN ACT relative to Boston granting certain interests in land under Boston Common to the MBTA in order to extend the subway platforms at Park Street Station on the Red Line.

Article 97 of the Amendments to the Constitution requires legislation to transfer any interest in park land from one governmental agency to another.

10. AN ACT amending the law relative to conduct in public conveyances.

This proposal would amend existing law to include noise, especially radio noise.

11. AN ACT relative to the prequalification of contractors by the MBTA.

The Authority now prequalifies contractors as a matter of policy. Since the Authority is now under the general bid statute applicable to other agencies, it should come under a similar prequalification statute.

12. AN ACT authorizing and directing Boston, through its Parks and Recreation Commission, to convey to the MBTA, certain interests in parcels of land in the City for the purpose of constructing certain portions of the Massachusetts Bay Transportation Authority's Southwest Corridor Project.

This legislation contains parcels of park land owned by Boston and required for the Southwest Corridor Project. Article 97 of the Amendments to the Constitution requires legislation.

13. AN ACT relative to the reimbursement of fuel and special fuel excises to those providing mass transportation services.

Adoption of this proposal would provide 100 percent reimbursement for fuel excises not currently reimbursed.

14. AN ACT relative to the consumption of alcoholic beverages in a facility or conveyance of the MBTA.

This proposal is aimed at the safety of passengers, especially during times when large numbers are attending certain events.

15. AN ACT providing for the acquisition and management of a Southwest Corridor Park by the Department of Environmental Management.

Park properties in the Southwest Corridor have recently been turned over to the Department of Environmental Management by the Department of Public Works. Legislation is needed to allow D.E.M. to operate within the City of Boston.

16. AN ACT relative to income tax credits for employers providing all or part of certain expenses for public transportation.

This proposal would allow a tax credit to an employer in an amount equal to 50 percent of the actual amount contributed toward commuter rail tickets or prepaid passes purchased by an employee.

17. AN ACT relative to the fare charged pupils using the facilities of the MBTA.

This would require the Board of Directors to fix a pupil's fare not to exceed one-fifth of the adult cash fare and would eliminate the present transfer system which is widely abused.

18. AN ACT authorizing the MBTA to develop and lease its real property not otherwise required for transportation purposes.

This proposal seeks to allow the Authority to develop its real estate for commercial and other uses and authorizes the leasing of real estate and air rights.

19. AN ACT relative to claims against the MBTA.

This proposal would impose a \$100,000 limit on claims against the Authority. This is the same amount now applicable to the Commonwealth and cities and towns under recently enacted legislation.

20. AN ACT relative to hiring for certain positions by the MBTA.

This would prohibit the Authority from hiring certain persons as operators, collectors or guards and would allow the Authority to receive criminal offender information.

# WHERE THE RIDERS ARE

Revenue from transportation - the rider's fare - pays for about one-fourth of the operating costs of the Massachusetts Bay Transportation Authority.

The tables below show the revenue from the various types of transportation the MBTA operates on the surface and on rails. Revenue to Railroad Operations is not included in the (T) total Transportation Revenues because this (T) service is operated by the Boston & Maine Corporation and these revenues are included as a reduction in the Railroad contract costs. The streetcar and bus revenue figures from each "rating station" - the garage where bus and streetcar operators pick their route on the basis of their seniority rating - give a further breakdown of where people use public transportation.

## 1980 REVENUE FROM TRANSPORTATION

### RAPID TRANSIT

Orange Line (Oak Grove-Forest Hills)	\$ 9,328,784
Blue Line (Bowdoin-Wonderland)	2,297,386
Red Line (Harvard/Brattle-Ashmont)	9,353,850
Red Line (South Shore Extension to Braintree)	4,000,511
Green Line Central Subway (Kenmore-Lechmere)	9,692,429
Total Rapid Transit Lines	<u>\$34,672,960</u>

### SURFACE LINES

Streetcar (Green Line: Riverside, Beacon, Arborway Commonwealth, Mattapan-Ashmont)	\$ 4,727,378
Trackless Trolley (Cambridge, Belmont, Watertown)	1,271,377
Bus (172 Routes)	25,110,259
Total Surface Lines	<u>\$31,109,014</u>

### MISCELLANEOUS

School Ticket Sales	\$ 407,639
Chartered Bus	7,468
Total Miscellaneous	<u>\$ 415,107</u>

### TOTAL TRANSPORTATION REVENUE

\$66,197,081

### Streetcar Revenue by Rating Stations

Reservoir-Riverside	\$ 4,339,367
Arborway-Mattapan	<u>388,011</u>
TOTAL STREETCAR REVENUE	\$ 4,727,378

### Revenue to Railroad Operations

North Service	\$ 7,160,275
South Service	<u>4,393,409</u>

TOTAL STREETCAR REVENUE \$11,553,684

### Bus Revenue by Rating Stations

Cabot-Albany, Boston	\$ 8,910,503
Arborway, Boston	4,369,918
Somerville and Arlington Heights	2,540,252
Salem Street, Medford Charlestown; Eagle Street, East Boston	5,757,015
Lynn	1,709,529
Quincy	<u>1,823,042</u>

TOTAL BUS REVENUE \$25,110,259

# MBTA ASSESSMENT PROCEDURES

A question frequently heard from our customers is "how is my town's MBTA assessment determined?" All 79 cities and towns in the MBTA district pay a share of the MBTA's yearly deficit or net cost of service. The assessment formulas for sharing the deficit were originally spelled out in state legislation passed in 1964 when the old MTA district, serving 14 cities and towns, was enlarged to the present regional transportation district and renamed the MBTA. The formulas have been amended by the legislature from time to time in an effort to make the assessment more fair and equitable.

The legislation defines two basic types of MBTA service, "express service" and "local service". Express service refers to rapid transit service on controlled rights of way, while local service refers to MBTA buses, trackless trolleys and streetcars in local streets. The net cost of providing each of these types of service is calculated separately and allocated by a different formula.

type of service	portion of deficit	who pays	basis for assessment
EXPRESS	75%	all 79 cities & towns	number of commuters
	25%	cities & towns with rapid transit & R.R.	boarding counts (except new stations)
LOCAL	50%	65 cities & towns 14 cities & towns	population (1980 preliminary U.S. Census)
	50%	cities & towns with bus service	share of losses sustained locally

## EXPRESS SERVICE

Legislation has divided the assessment for the cost of express service into two parts, a 75% portion, and a 25% portion, each distributed in a different fashion.

The 75% portion of the net cost of express service is shared by all 79 cities and towns in the MBTA, based on the number of "commuters" living in each municipality. The number of commuters in each city and town was determined from the 1980 Federal Census data and included all people who traveled outside their town to their place of work, whether they used public transportation or not. In the case of the City of Boston, the number of commuters was established so that Boston would be responsible for not less than 30% of this 75% portion.

The remaining 25% of the net cost of express service is shared only by those cities and towns that have one or more express service stations. This part of the assessment is proportional to the number of passengers boarding the rapid transit lines at stations in each community. Each year counts are taken to determine the number of passengers boarding at each station and within each town. However, in 1973, the legislature amended the assessment procedure to exclude from the boarding counts passengers boarding at new rapid

transit stations opened after July 1973. This amendment means that a new station in a community will not result in an increase in its assessment for the 25% portion of express service costs.

#### LOCAL SERVICE

Local service refers to buses, trackless trolleys, and streetcars operating on local streets. As in express service, the formula for assigning the local service deficit is divided into two parts, in this case two equal or 50% portions. Half of the local service deficit is allocated on the basis of population as determined by the most recent Federal Census (1980); but on the weight of 14 Cities and Towns and 65 Cities and Towns independently. The other 50% of the deficit from local service operations is shared by those cities and towns that have such service, and is based on the proportion of losses incurred in each city or town.

To determine the operating loss incurred in each community, costs are first identified with a mode of service--bus, trackless trolley and streetcar. All direct costs are identified directly with the appropriate mode, and indirect costs are allocated to modes largely based upon the direct charges to each mode each month. Costs by mode are then allocated to specific routes by means of one of six bases depending upon the type of expense involved. Direct costs of operation and maintenance of each rating station (depot), are allocated only to routes emanating from that rating station. For example, costs of operating and maintaining routes from the Quincy Garage are allocated only to the routes in the Quincy Rating Station.

Farebox revenue is sampled on each route four times yearly, and the difference between operating cost and annual revenue determines the yearly profit or loss for each route. This profit or loss is allocated to each city or town on the route, on the basis of mileage. If a town elects to have no local service, buses then make no stops in that town, and the profit or loss from routes passing through that town is distributed among the other towns on the route. For all cities and towns with local MBTA service, the losses and profits from the routes in the community are totaled. Half of the MBTA's local service assessment is then based on the percentage of local service operating losses incurred in each municipality.

As an example of local service assessment, consider a six-mile long bus route, with four miles in Town A and two miles in Town B. Assume that the operating cost for the route was \$100,000 a year. Assume also that farebox revenue on the route was \$40,000 a year. The operating deficit would be \$60,000 a year, the difference between operating cost and revenue. Half of this \$60,000 deficit (\$30,000) would be allocated among the 14 Cities and Towns and the 65 Cities and Towns on the basis of population, and half would be allocated to Towns A and B. Town A would have to pay \$20,000 and Town B would be assessed \$10,000 because the bus route operated twice as many miles in Town A as in Town B.

#### OBJECTIVES

The MBTA assessment procedures can be summed up by pointing out two objectives in the formulas. The first objective is to recognize that the 79 cities and towns of the MBTA District comprise one regional transportation district, that all municipalities benefit by the system, and, therefore, all must share some of the deficit. The second objective is to assess a greater portion of the cost of operating the MBTA on those cities and towns that get a greater degree of service. To relieve the burden on local governments, in recent years the state has begun to pay for part of the MBTA deficit. The Federal government is also providing operating subsidies for mass transit under legislation enacted in 1974.

# THE PUBLIC TRANSPORTATION DEFICIT: A BRIEF HISTORY

Since July 1, 1918, public policy in Massachusetts has been that the transportation network in Greater Boston is a public service, benefiting individuals, businesses and government.

That public policy began when five public trustees began operating the Boston Elevated Railway under the lease conditions of the Public Control Act, passed by the Legislature on May 22, 1918. This was six years after the Boston Elevated Railway Co. reported its first deficit of \$492,000. In 1913, the company lost \$496,000; there were small surpluses in 1914, 1915, and 1916, but in 1917 there was a loss of \$118,000. In the first half of 1918, when "The El" was still under private control, losses amounted to \$572,000 and maintenance was being deferred while the company awaited public takeover. Consequently, a large public investment had to be made and the deficit for the first 12 months of public control was \$3.1 million.

In 54 of the 62 years since the 1918 Public Control Act, public transportation has incurred a deficit. The eight years of surplus were 1922, 1923, 1925, 1927,

1928, 1929, 1942 and 1943. The surplus was never more than \$1.9 million. The Metropolitan Transit Authority (MTA), comprising 14 cities and towns, ran the system from 1948 through August 3, 1964. It had deficits, ranging from \$2.8 million to \$21 million, assessable on the communities. The Massachusetts Bay Transportation Authority (MBTA), comprising 79 cities and towns, is the successor of the MTA. Its net cost of service is assessed on the 79 member communities.

Rising operating expenses, especially wage and fuel costs, are directly attributable to inflation. The spiraling costs continue to far outdistance revenue from fares paid by increased numbers of passengers.

The sources of funding for public transit, passenger revenue, local taxation, and state aid, were expanded to include the Federal Government with the passage of the Urban Mass Transportation Act of 1974. In 1977, the Authority became eligible for additional assistance in the funding of commuter rail operations. For the year ending December 31, 1980, the Authority received \$29,328,419 in Federal Operating Grants.

# 1980 STATISTICS

Population of 79 Communities in (T) District (1980 U.S. Census-Preliminary)	2,608,638
Number of Bus Routes	172
Number of Streetcar Routes	5
Number of Rapid Transit Routes	3
Number of Trackless Trolley Routes	4
Number of Commuter Rail Routes	10
Buses	1,081
Streetcars (165) and Light Rail Vehicles (126)	291
Rapid Transit Cars	380
Trackless Trolleys	50
Commuter Rail Vehicles: 43 Locomotives: 234 Coaches (59 leased)	277
Weekday Passengers	564,500
Commuter Rail (Actual)	35,500
Basic (T) System (Estimated)	529,000
Annual Passengers	168,609,015
Commuter Rail (Actual)	9,339,015
Basic (T) System (Estimated)	158,270,000
Rapid Transit Stations, including Riverside & Mattapan Lines	79
Commuter Rail Stations	89
Miles of Track (One Way) in Subway	15
Miles of Track (One Way) on Bridges, Elevated or Surface	48.2
Rapid Transit Route Miles (One Way)	42.3
Red Line: Harvard/Brattle-Ashmont, 9.6; Harvard/Brattle-Braintree, 15.0	
Orange Line: Forest Hills-Oak Grove, 10.9	
Blue Line: Bowdoin-Wonderland, 6.8	
Rapid Transit Route Miles Under Construction (One Way)	8.4
Red Line Northwest Extension, 3.7; Southwest Corridor Orange Line Relocation, 4.7	
Proposed Rapid Transit Route Miles (One Way) - Blue Line Extension to Lynn	4.5
Streetcar Route Miles (One Way)	35.1
Riverside-North Station, 12.5; Arborway-Park, 5.5; Lake Street-Lechmere, via Commonwealth Ave., 8.0; Cleveland Circle-Lechmere, via Beacon Street, 6.6; Ashmont-Mattapan, 2.5	
Trackless Trolley Route Miles (One Way)	15.75
Bus Route Miles	710
Commuter Rail Route Miles (One Way)	357
North Station: to Gardner, 65; to Concord, NH, 73; to Woburn, 10; to Haverhill, 33; to Ipswich, 28; to Rockport, 35.	
South Station: to Framingham, 22; to Franklin, 28; to Stoughton, 19; to Providence, 44.	
Employees	6,748
Collective Bargaining Units	30



PART II

FINANCIAL STATEMENTS

DECEMBER 31, 1980 AND 1979

The Authority's financial statements were audited by Arthur Andersen & Co., independent public accountants, and their report is included with the following financial statements:

- Balance Sheet - December 31, 1980 and 1979
- Statement of Revenue and Cost of Service for the Years Ended December 31, 1980 and 1979
- Statement of Unreimbursed Cost of Service for the Years Ended December 31, 1980 and 1979
- Statement of Changes in Financial Position for the Years Ended December 31, 1980 and 1979
- Statement of Bonds Payable - December 1980 and 1979
- Notes to Financial Statements - December 31, 1980 and 1979

Difference in Financial Presentation

The audited financial statements historically reflect a different amount for "Cost of Service in Excess of Revenue" than is shown on the Authority's "Statement of Net Cost of Service" due to different methods of accounting for certain costs and revenues. The audited statements include in cost of service certain non-cash expenditures such as amortization and depreciation (computed based on the estimated useful lives of the assets) and interest accrued on Federal loans and exclude from operating revenue reimbursements from the state and communities outside the MBTA district. The "Net Cost of Service Statement" includes principal payments on debt as an expense in lieu of depreciation and includes certain reimbursements in income.

The two amounts are reconciled as follows:

	(\$000 Omitted)	
	<u>1980</u>	<u>1979</u>
"Cost of Service in Excess of Revenue" per Authority's "Statement of Net Cost of Service"	\$(256,659)	\$(222,094)
Interest on the Federal Loans not currently assessable, net of property management income and expenses (See Note 9)	(2,076)	(3,084)
Reimbursement for contracted passenger services outside the district, carried by the MBTA as an income item to reduce the amount assessable to other cities and towns	(3,386)	(1,969)
Gasoline and fuel taxes reimbursed by the state carried by MBTA as income	(479)	(431)
The amount that depreciation and amortization expense exceeded bond payments during the year (See Note 1)	(14,414)	(13,948)
Commuter rail labor costs incurred in 1978 and 1979 but not funded by the Advisory Board until 1980	2,800	(2,800)
Provision for Light Rail Vehicles (This is an additional charge to Cost of Service for the loss of eight Light Rail Vehicles discussed in Note 8)	<u>-</u>	<u>(2,431)</u>
"Cost of Service in Excess of Revenue" per Authority's Audited Statement	<u>\$(274,214)</u>	<u>\$(246,757)</u>

ARTHUR ANDERSEN & CO.  
BOSTON, MASSACHUSETTS

To the Board of Directors of

Massachusetts Bay Transportation Authority:

We have examined the balance sheet and statement of bonds payable of the MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (a political subdivision of the Commonwealth of Massachusetts) as of December 31, 1980, and 1979, and the related statements of revenue and cost of service, unreimbursed cost of service, and changes in financial position for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the financial statements referred to above present fairly the financial position of the Massachusetts Bay Transportation Authority as of December 31, 1980, and 1979, and the results of its operations and the changes in its financial position for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

*Arthur Andersen & Co.*

Boston, Massachusetts,

March 18, 1981.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

BALANCE SHEET - DECEMBER 31, 1980 AND 1979

A S S E T S

	(\$000 Omitted)	
	<u>1980</u>	<u>1979</u>
TRANSPORTATION PROPERTY, at cost (Note 7):		
Transportation property in service	\$ 993,229	\$ 871,500
Less - Reserve for depreciation	<u>210,494</u>	<u>186,719</u>
	\$ 782,735	\$ 684,781
Construction in progress (Note 7)	428,671	301,899
Property held for expansion (Note 9)	<u>20,601</u>	<u>22,454</u>
	<u>\$1,232,007</u>	<u>\$1,009,134</u>
 SPECIAL FUNDS, consisting of Cash and Certificates of Deposit:		
Construction funds	\$ 20,570	\$ 47,602
Federal grants and other special funds (Notes 1, 7 and 8)	<u>42,061</u>	<u>34,784</u>
	<u>\$ 62,631</u>	<u>\$ 82,386</u>
 CURRENT ASSETS:		
Cash	\$ 7,726	\$ 2,123
Temporary cash investments	21,300	14,900
Accounts receivable -		
Commonwealth of Massachusetts (Notes 1, 2 and 3)	184,630	174,591
Federal Department of Transportation (Notes 4 and 5)	6,511	27,443
Other	9,443	7,857
Materials and supplies, at average cost	15,674	13,334
Prepaid expenses	<u>1,338</u>	<u>1,190</u>
	<u>\$ 246,622</u>	<u>\$ 241,438</u>
 DEFERRED CHARGES	<u>\$ 10,515</u>	<u>\$ 11,789</u>
	<u>\$1,551,775</u>	<u>\$1,344,747</u>

The accompanying notes are an integral part  
of these financial statements.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

BALANCE SHEET - DECEMBER 31, 1980 AND 1979

L I A B I L I T I E S

	(\$000 Omitted)	
	<u>1980</u>	<u>1979</u>
LONG-TERM DEBT, exclusive of current maturities:		
Bonds payable (See Separate Statement)	\$ 448,282	\$ 431,504
Loans payable to Federal Department of Transportation, including accrued interest of \$15,109,597 in 1980 and \$14,778,811 in 1979 (Note 9)	<u>52,135</u>	<u>57,639</u>
	<u>\$ 500,417</u>	<u>\$ 489,143</u>
UNREIMBURSED COST OF SERVICE (NOTE 1)	<u>\$ (13,094)</u>	<u>\$ (16,806)</u>
CURRENT LIABILITIES:		
Current maturities of bonds payable (See Separate Statement)	\$ 13,222	\$ 13,535
Notes payable (Note 6)	195,000	195,000
Accounts payable	27,462	26,011
Accrued liabilities -		
Payroll	1,681	1,888
Interest	16,182	15,796
Other	<u>9,076</u>	<u>7,801</u>
	<u>\$ 262,623</u>	<u>\$ 260,031</u>
COMMITMENTS AND CONTINGENCIES (Notes 1, 2, 7, 8 and 10)		
DEFERRED CREDITS (Note 8)	<u>\$ 40,909</u>	<u>\$ 37,082</u>
GRANTS (Notes 1 and 7):		
Federal grants	\$ 810,865	\$ 609,517
Local grants	<u>17,859</u>	<u>16,349</u>
	<u>\$ 828,724</u>	<u>\$ 625,866</u>
Less - Amortization	<u>67,804</u>	<u>50,569</u>
	<u>\$ 760,920</u>	<u>\$ 575,297</u>
	<u>\$1,551,775</u>	<u>\$1,344,747</u>

The accompanying notes are an integral part  
of these financial statements.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY  
STATEMENT OF REVENUE AND COST OF SERVICE  
FOR THE YEARS ENDED DECEMBER 31, 1980 AND 1979

	(\$000 Omitted)	
	<u>1980</u>	<u>1979</u>
OPERATING REVENUE, not including local and Federal assistance:		
Passenger revenue	\$ 66,197	\$ 56,727
Other	2,650	2,264
	<u>\$ 68,847</u>	<u>\$ 58,991</u>
OPERATING EXPENSES (Notes 1, 2, and 11):		
Labor	\$ 120,705	\$ 111,094
Fringe benefits (Note 10)	62,916	57,846
Depreciation and amortization (Note 5)	27,498	25,757
Materials and supplies -		
Fuel	6,572	4,277
Other	15,632	12,228
Utilities -		
Propulsion power	15,734	11,976
Other	8,138	6,065
Services	5,784	5,211
Casualty and liability costs	3,703	3,509
Other	2,682	2,857
	<u>\$ 269,364</u>	<u>\$ 240,820</u>
OPERATING LOSS	\$ (200,517)	\$ (181,829)
OTHER INCOME, including interest of \$13,290,000 in 1980 and \$13,197,000 in 1979	13,623	13,651
PROVISION FOR LIGHT RAIL VEHICLES (Note 8)	-	(2,431)
INTEREST EXPENSE, including long-term debt interest of \$26,774,000 in 1980 and \$26,066,000 in 1979	(42,100)	(37,801)
RAILROAD COMMUTER EXPENSE, net of passenger revenues of \$11,554,000 in 1980 and \$9,505,000 in 1979 (Note 5)	<u>(45,220)</u>	<u>(38,347)</u>
COST OF SERVICE IN EXCESS OF REVENUE (Note 1)	<u>\$ (274,214)</u>	<u>\$ (246,757)</u>

The accompanying notes are an integral part  
of these financial statements.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY  
STATEMENT OF UNREIMBURSED COST OF SERVICE  
FOR THE YEARS ENDED DECEMBER 31, 1980 AND 1979

	(\$000 Omitted)	
	<u>1980</u>	<u>1979</u>
BALANCE AT BEGINNING OF YEAR	\$ (16,806)	\$ (7,576)
ADD - Cost of service in excess of revenue	(274,214)	(246,757)
DEDUCT:		
Net cost of service reimbursed by the Commonwealth of Massachusetts, a portion of which is to be assessed to the cities and towns constituting the Authority (Note 3)	193,107	165,412
Contract assistance for debt service pursuant to Section 28 of Chapter 161A of the General Laws, as amended (Note 3)	29,524	26,840
Contract assistance, other (Note 3)	4,699	2,419
Federal operating assistance pursuant to Section 5 of the Urban Mass Transportation Act of 1964, as amended (Note 4)	29,328	27,422
Railroad commuter expense reimbursable by government entities outside the Authority's area (Note 5)	3,386	1,969
State diesel and gasoline fuel taxes reimbursable to the Authority in accordance with Section 2 of Chapter 563 of the Acts of 1964	479	431
Amortization of grants and deferred credits (Notes 1 and 7)	<u>17,403</u>	<u>13,034</u>
BALANCE AT END OF YEAR	<u>\$ (13,094)</u>	<u>\$ (16,806)</u>

The accompanying notes are an integral  
part of these financial statements.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY  
STATEMENT OF CHANGES IN FINANCIAL POSITION  
FOR THE YEARS ENDED DECEMBER 31, 1980 AND 1979

	(\$000 Omitted)	
	<u>1980</u>	<u>1979</u>
FUNDS WERE USED FOR:		
Cost of service in excess of revenue	\$ 274,214	\$ 246,757
Less - Charges to cost of service in excess of revenue which did not require funds -		
Depreciation of transportation property	(26,761)	(25,054)
Amortization of deferred charges	(1,087)	(1,053)
Provision for light rail vehicles	-	(2,431)
Interest accrued on loan from Federal Department of Transportation	(2,190)	(3,114)
	<u>\$ 244,176</u>	<u>\$ 215,105</u>
Additions to transportation property, net	249,635	239,028
Forgiveness of Federal loan principal and interest	7,692	1,022
Increase (decrease) in special funds	(19,755)	71,850
Payments of bonds payable	13,222	13,535
Other	(185)	(245)
Total funds used	<u>\$ 494,785</u>	<u>\$ 540,295</u>
FUNDS WERE PROVIDED BY:		
Grants from Federal and other sources	\$ 202,858	\$ 217,089
Net cost of service reimbursable by the Commonwealth of Massachusetts, a portion of which is to be assessed to the cities and towns constituting the Authority	193,107	165,412
Issuance of long-term debt	30,000	60,000
Contract assistance from the Commonwealth of Massachusetts	34,223	29,259
Federal operating assistance	29,328	27,422
Reimbursements by the Commonwealth of Massachusetts of state diesel and gasoline fuel taxes	479	431
Reimbursement for service provided to cities and towns outside the Authority's area	3,386	1,969
Increase in deferred credits due primarily to settlement with Boeing Vertol Company	3,996	30,786
Total funds provided	<u>\$ 497,377</u>	<u>\$ 532,368</u>
RESULTING IN A WORKING CAPITAL INCREASE (DECREASE) OF	<u>\$ 2,592</u>	<u>\$ (7,927)</u>
CHANGES IN ELEMENTS OF WORKING CAPITAL CONSIST OF:		
Increase (decrease) in current assets -		
Cash	\$ 5,603	\$ (5,733)
Temporary cash investments	6,400	(11,248)
Accounts receivable	(9,307)	22,308
Materials and supplies	2,340	3,200
Prepaid expenses	148	35
	<u>\$ 5,184</u>	<u>\$ 8,562</u>
Increase (decrease) in current liabilities -		
Current maturities of bonds payable	\$ (313)	\$ 1,376
Accounts payable	1,451	7,653
Accrued liabilities	1,454	7,460
	<u>\$ 2,592</u>	<u>\$ 16,489</u>
Increase (decrease) in working capital	<u>\$ 2,592</u>	<u>\$ (7,927)</u>

The accompanying notes are an integral part of these financial statements.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

STATEMENT OF BONDS PAYABLE

DECEMBER 31, 1980 AND 1979

(Notes 6 and 7)

Massachusetts Bay Transportation Authority General Transportation System Bonds issued under General Laws, Chapter 161A, Section 23 of the Commonwealth of Massachusetts, are all payable in annual installments on March 1; interest is payable semi-annually on March 1 and September 1.

1967 Series A Bonds dated March 1, 1967 - The proceeds of the sale of the 1967 Series A Bonds were required to be used for payment of \$40,000,000 of Bond Anticipation Notes outstanding and the balance of \$70,000,000 was required to be deposited in the Bond Proceeds account. These bonds were issued to provide funds for the purposes outlined below. The debt outstanding at December 31, 1980 and 1979 is as follows:

(\$000 Omitted)

<u>Purpose</u>	<u>Year of Maturity</u>	<u>Approximate Annual Payments</u>	<u>Average Interest Rate</u>	<u>1980</u>	<u>1979</u>
Express service transportation facilities	2007	\$1,900	3.81%	\$51,300	\$53,200
Agreement with railroads	1982	350	3.75	700	1,050
Local service transportation facilities	2007	50	3.81	1,350	1,400
Capital cost of certain transportation facilities including yards, shops and rolling stock	2007	650	3.81	<u>17,550</u>	<u>18,200</u>
				<u>\$70,900</u>	<u>\$73,850</u>

1970 Series A Bonds dated September 1, 1970 - The proceeds of the sale of the 1970 Series A Bonds were required to be used for payment of \$5,365,000 of Bond Anticipation Notes outstanding and the balance of \$61,500,000 was required to be deposited in the Bond Proceeds account. These bonds were issued to provide funds for the purposes outlined below. The debt outstanding at December 31, 1980 and 1979 is as follows:

(\$000 Omitted)

<u>Purpose</u>	<u>Year of Maturity</u>	<u>Approximate Annual Payments</u>	<u>Average Interest Rate</u>	<u>1980</u>	<u>1979</u>
Express service transportation facilities	2010	\$1,540	6.36%	\$46,100	\$47,640
Buses and other purposes	1982	275	6.00	550	845
Purchase and improvement of the Cambridge Subway	1980	185	6.00	-	185
				<u>\$46,650</u>	<u>\$48,670</u>

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY  
STATEMENT OF BONDS PAYABLE  
DECEMBER 31, 1980 AND 1979  
(Notes 6 and 7)  
(Continued)

1972 Series A Bonds dated September 1, 1972 - The proceeds of the sale of the 1972 Series A Bonds were used for payment of \$8,000,000 of Bond Anticipation Notes and the balance of \$32,000,000 was deposited in the Bond Proceeds account. These bonds were issued to provide funds for the purposes outlined below. The debt outstanding at December 31, 1980 and 1979 is as follows:

(\$000 Omitted)

<u>Purpose</u>	<u>Year of Maturity</u>	<u>Approximate Annual Payments</u>	<u>Average Interest Rate</u>	<u>1980</u>	<u>1979</u>
Express service trans- portation facilities and other capital costs of the transportation system	2012	\$865	4.94%	\$27,580	\$28,445
Bus acquisition	1984	295	5.40	1,160	1,455
Bus garages	1984	165	5.40	660	825
				<u>\$29,400</u>	<u>\$30,725</u>

1974 Series A Bonds dated June 1, 1974 - The proceeds of the sale of 1974 Series A Bonds were deposited in the Bond Proceeds account. These bonds were issued to provide funds for the purposes outlined below. The debt outstanding at December 31, 1980 and 1979 is as follows:

(\$000 Omitted)

<u>Purpose</u>	<u>Year of Maturity</u>	<u>Approximate Annual Payments</u>	<u>Average Interest Rate</u>	<u>1980</u>	<u>1979</u>
Express service trans- portation facilities and other capital costs of the transportation system	2014	\$1,800	6.09%	\$60,600	\$62,400
Bus and trackless trolley acquisition	1986	300	7.00	1,800	2,100
				<u>\$62,400</u>	<u>\$64,500</u>

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY  
STATEMENT OF BONDS PAYABLE  
DECEMBER 31, 1980 AND 1979  
 (Notes 6 and 7)  
 (Continued)

1977 Series A Bonds dated September 1, 1977 - The proceeds of the sale of 1977 Series A Bonds were deposited in the Bond Proceeds account. These bonds were issued to provide funds for the purposes outlined below. The debt outstanding at December 31, 1980 and 1979 is as follows:

(\$000 Omitted)

<u>Purpose</u>	<u>Year of Maturity</u>	<u>Approximate Annual Payments</u>	<u>Average Interest Rate</u>	<u>1980</u>	<u>1979</u>
Express service transportation facilities and other capital costs of the transportation system	2017	\$2,000	6.31%	<u>\$ 72,600</u>	<u>\$ 73,400</u>

1979 Series A Bonds dated May 1, 1979 - The proceeds of the sale of 1979 Series A Bonds were deposited in the Bond Proceeds account. These bonds were issued to provide funds for the purposes outlined below. The debt outstanding at December 31, 1980 and 1979 is as follows:

(\$000 Omitted)

<u>Purpose</u>	<u>Year of Maturity</u>	<u>Approximate Annual Payments</u>	<u>Average Interest Rate</u>	<u>1980</u>	<u>1979</u>
Express service transportation facilities and other capital costs of the transportation system	2019	\$1,500	7.07%	<u>\$ 58,300</u>	<u>\$ 60,000</u>

Total MBTA Bonds Payable	<u>\$340,250</u>	<u>\$351,145</u>
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1980 Bond Anticipation Notes dated December 31, 1980

The proceeds from the sale of these notes were deposited in the Bond Proceeds account and is being used for capital costs of the transportation system. The interest rate is 12.5% and the notes are due on May 1, 1981. The Authority intends to refinance the notes with a bond issue and has classified them in Long-term Debt, Bonds Payable on the balance sheet.

<u>\$ 30,000</u>	<u>\$ -</u>
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MASSACHUSETTS BAY TRANSPORTATION AUTHORITY  
STATEMENT OF BONDS PAYABLE  
DECEMBER 31, 1980 AND 1979  
(Notes 6 and 7)  
(Continued)

Boston Metropolitan District Bonds - These bonds were issued for transit purposes prior to formation of the Massachusetts Bay Transportation Authority in 1964. On Construction Bonds, the remaining balances, after annual payments through the year of maturity as noted below, are payable in the year of maturity; however, the Authority intends to refinance these amounts. Therefore, bonds maturing in 1981 have been included in long-term debt.

(\$000 Omitted)					
<u>Purpose</u>	<u>Year of Maturity</u>	<u>Approximate Annual Payments</u>	<u>Average Interest Rate</u>	<u>1980</u>	<u>1979</u>
Boston Elevated Railway Company and Metropolitan Transit Authority Debt	2020	\$1,000	4.48%	\$ 39,919	\$ 40,918
Purchase of City of Boston Transit Properties	2024	\$ 536	4.25%	\$ 23,595	\$ 24,132
Equipment Serial Bonds	1981	\$ 127	1.50%	\$ 127	\$ 254
	1987	127	2.90	892	1,020
	1988	131	2.90	1,048	1,179
	1993	169	3.00	2,197	2,366
	1993	100	3.20	1,300	1,400
				<u>\$ 5,564</u>	<u>\$ 6,219</u>
Construction Bonds	1980	\$ 102	8.80%	-	\$ 4,590
	1981	4,488	9.00	\$ 4,488	-
	1981	84	1.50	3,866	3,950
	1982	22	2.10	1,034	1,056
	1983	47	2.75	2,256	2,303
	1984	10	2.30	490	500
	1988	55	3.00	2,915	2,970
	1989	70	3.60	3,762	3,832
	1990	19	3.50	1,045	1,064
	1993	40	3.20	2,320	2,360
				<u>\$ 22,176</u>	<u>\$ 22,625</u>
Total BMD Bonds Payable				\$ 91,254	\$ 93,894
Total Bonds Payable				\$461,504	\$445,039
Less: Current Maturities of Bonds Payable				<u>13,222</u>	<u>13,535</u>
Total Bonds Payable - Long-term				<u>\$448,282</u>	<u>\$431,504</u>

The accompanying notes are an integral part  
of these financial statements.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY  
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(1) Summary of Significant Accounting Policies

(a) Expense Classification

The operating expenses have been classified in accordance with the uniform system of accounts specified under Section 15 of the Urban Mass Transportation Act of 1964, as amended. In addition, Note 11 presents operating expenses in a functional format.

The classifications of expenses under the Section 15 chart of accounts are different than the classifications used by the Authority in its itemized budget and in reports of net cost of service by budget line due to differing definitions of the categories of expense (e.g., payments of vacation, holiday, and sick pay are classified as fringe benefits under the uniform system of accounts).

(b) Transportation Property

Transportation property is stated at historical cost. Such costs include MBTA labor costs for employees working on capital projects plus related fringe benefits and an allocated share of general and administrative costs.

(c) Depreciation

Depreciation is provided in the accounts based on the straight-line method at rates which are designed to amortize the original cost of the property over its estimated useful life. The major categories of transportation property and the depreciation rates used in 1980 are:

	<u>Rates</u>			<u>Cost (\$000 Omitted)</u>	
	<u>Low</u>	<u>High</u>	<u>Average</u>	<u>1980</u>	<u>1979</u>
Ways and structures	1.33%	10.00%	2.03%	\$649,986	\$600,937
Equipment	2.00%	18.00%	4.69%	289,539	217,388
Land	-	-	-	53,704	53,175
				<u>\$993,229</u>	<u>\$871,500</u>

(d) Deferred Charges

Certain costs incurred by the Authority, primarily related to the expansion and modernization of the transportation system, have been capitalized. These costs are then amortized by charges to cost of service over the future periods in which the benefit to the Authority is estimated to be realized. In 1980 and 1979, amortization amounted to \$1,087,000 and \$1,053,000, respectively, which includes \$350,000 relating to railroad commuter expense each year.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY  
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(e) Casualty and Liability Costs

The Authority is a self-insurer on claims for injuries and damages to the extent of \$2,000,000 per accident. Insurance coverage is carried on claims in excess of that amount up to a maximum limit of \$15,000,000.

The Authority accounts for injuries and damages by charges to operating expenses as payments are made. In addition, the Authority has established a public liability fund amounting to \$2,252,000 at December 31, 1980 and \$1,649,000 at December 31, 1979.

(f) Workmen's Compensation Expense

The Authority is a self-insurer on claims for workmen's compensation to the extent of \$200,000 per occurrence. Insurance coverage is carried on each occurrence in excess of that amount up to a maximum limit of \$4,200,000 per occurrence. The Authority accounts for these claims by charges to operating expenses as payments are made.

(g) Vacation

The Authority recognizes vacation expense by charges to operating expenses in the year the vacation is taken. Unpaid vested vacation pay amounted to approximately \$10,300,000 at December 31, 1980.

(h) Grants

The Authority receives capital expansion grants from certain governmental agencies to be used for various purposes connected with the planning, modernization and expansion of transportation facilities and equipment. Amortization of these grants is deferred until such time as the related facilities and equipment are put into service. The grants are then amortized over the lesser of the estimated useful life of the assets or forty years, as a reduction of unreimbursed cost of service. As of December 31, 1980, the Authority had incurred costs paid with construction funds totaling \$13,008,000. These expenditures will be reimbursed with Federal capital grant funds and reflected as grants when these funds are received.

(i) Unreimbursed Cost of Service

The legislative act under which the Massachusetts Bay Transportation Authority was established provides, among other things, that the Commonwealth of Massachusetts shall reimburse the Authority for the net cost of service, as defined. This amount is then assessed to the 79 cities and towns constituting the Authority to the extent it exceeds contract assistance (Note 3). The net cost of service includes a charge equal to the payments made on long-term debt during the period, and does not include a charge for depreciation and certain amortization. For financial reporting purposes, however, the Authority follows the generally accepted method of depreciating and amortizing the cost of assets over their estimated useful lives.

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The difference between the sum of depreciation and amortization expense and the sum of payments made on long-term debt and amortization of grants is accumulated in the unreimbursed cost of service account. For the year ended December 31, 1980, the sum of payments on long-term debt and amortization of grants exceeded the depreciation and amortization expense by \$2,988,000 and for 1979 the expenses exceeded payments and amortization by \$915,000.

In addition, the net cost of service does not include charges for interest expense on the Loans Payable to the Federal Department of Transportation (\$2,076,000 in 1980 and \$3,084,000 in 1979) (Note 9). However, for financial reporting purposes, these amounts have been charged to cost of service in accordance with generally accepted accounting principles. Interest accrued will be included in net cost of service in the year it is paid.

(2) 1980 Emergency Legislation

In December, 1980, legislation was passed (Chapter 581) which provided funding to allow the Authority to operate through the end of the year, and also (1) changed the management structure of the Authority; (2) provided that the Authority not enter into collective bargaining agreements which jeopardize matters of inherent management rights; (3) prohibited the Authority from entering into agreements which provide for pension benefits to its employees determined in a manner that includes overtime earnings or which provide for automatic cost-of-living salary adjustments; (4) limited the Authority's budgets for the calendar years 1981, 1982, and 1983 to 104 percent of the budget approved for the preceding year, unless the Advisory Board votes to exceed such a limit by a two-thirds majority; and (5) limited the assessments to the 79 cities and towns in the district to 104 percent of the assessment for the prior year beginning with the Authority's 1981 calendar year operations.

Certain labor unions have brought litigation against the Authority alleging that the legislation is in violation of existing collective bargaining agreements. In January, 1981, the court enjoined the Authority from implementation of certain sections of the legislation. The impact of the legislation on the Authority's future operations and the ultimate outcome of the litigation remains uncertain.

(3) Contract Assistance

(a) Debt Service

The legislative act authorizing the issuance of debt securities currently provides for participation by the Commonwealth of Massachusetts in the payment of annual debt service costs on bonds issued by the Authority as follows: on the \$175,000,000 of bonds issued prior to January 1, 1971, the debt service on \$144,800,000 is eligible for contract assistance at either 90% or 50%, as provided by contract; the annual debt service on \$250,000,000 of bonds and interest expense on \$30,000,000 of bond anticipation notes issued after January 1, 1971, is eligible for contract assistance at 90%. However, regardless of when issued, contract assistance, under the current statute, will not be available on the debt service of

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY  
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more than \$452,000,000 of bonds outstanding at any one time. In 1980 and 1979, the Authority was eligible for assistance of \$29,524,000 and \$26,840,000, respectively.

(b) Operating Assistance

In 1979, the Commonwealth enacted legislation which provided the Authority with an amount of contract assistance for the net cost of service amounting to \$83,345,000. This additional contract assistance is not assessable to the 79 cities and towns constituting the Authority and is applied for assessment purposes as a reduction of all cost items comprising the net cost of service of the Authority.

The 1980 Emergency Legislation (see Note 2) provided that the Commonwealth shall provide contract assistance amounting to seventy-five percent of the net cost of service resulting from expenses incurred in excess of the Advisory Board approved budget limit of \$302,130,000, up to an expense limit of \$343,167,000. The Authority estimates that the total contract assistance, based on operating expenses for net cost of service purposes of \$342,994,000, will be \$105,851,000. This estimate anticipates that the state will provide contract assistance on the net cost of service resulting from expenses incurred within the approved budget limit in a percentage approximating that used in prior years. In prior years, the Commonwealth has provided contract assistance in an amount approximating fifty percent of the net cost of service.

Contract assistance for commuter rail service outside the MBTA district is provided by statute each year in amounts to assure that the amounts billed to the regional transit authorities receiving the service do not exceed the portion paid on March 1, 1978. The assistance under this statute amounted to \$4,699,000 and \$2,419,000 in 1980 and 1979, respectively. (See Note 5)

(4) Federal Operating Assistance (Department of Transportation)

Section 5 of the Urban Mass Transportation Act of 1964, as amended by the National Urban Mass Transportation Act of 1974, provided a six-year mass transportation assistance program for urbanized areas apportioned on the basis of a statutory formula. Urbanized areas may use Section 5 funds by developing specific capital assistance and/or operating assistance projects under the statutory requirements of the Act, as defined. The Authority has been designated the primary recipient for the Section 5 operating assistance for the Boston urbanized area. The Federal Public Transportation Act of 1978 extended the assistance through 1982 and revised the formula for apportioning funds to urbanized areas and limited certain amounts of the apportionment to specific purposes. For 1980 and 1979, Federal operating assistance amounted to \$29,328,000 and \$27,422,000, respectively.

(5) Railroad Commuter Subsidies

Under Chapter 161A Section 3(f) of the General Laws, the Authority may enter into agreements with private transportation companies, railroads and other concerns providing for joint or cooperative operation of any mass transportation facility and for operation and use of any mass transportation facility and equipment for the account of the Authority.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY  
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The Authority has five-year operating agreements expiring in December, 1981 with the Boston and Maine Corporation, Debtor, (B & M) to provide commuter rail service north and west of Boston ("North Service") and south and west of Boston ("South Service"). The Authority has agreed to pay the B & M all direct costs of operating the service, plus an equitable share of indirect costs and certain incentive payments.

In the event that the Advisory Board fails to approve the annual budgetary provision for any of this service, these agreements shall terminate subject to certain labor protection obligations and liquidated damages in lieu of incentive payments for passengers carried.

The costs and related operating assistance of commuter rail service are summarized below:

	(000 Omitted)	
	<u>1980</u>	<u>1979</u>
Passenger revenues	\$11,554	\$ 9,505
Operating costs, excluding depreciation of Authority owned property devoted to commuter rail service	<u>56,774</u>	<u>47,852</u>
Railroad commuter expense reflected in statement of revenue and cost of service	\$45,220	\$38,347
Less operating assistance reflected in the statement of unreimbursed cost of service		
Federal operating assistance related to railroad commuter operations	4,292	3,021
State contract assistance	4,699	2,419
Reimbursement from entities outside the Authority's area	<u>3,386</u>	<u>1,969</u>
	<u>\$32,843</u>	<u>\$30,938</u>
Depreciation expense not included above	<u>\$ 4,388</u>	<u>\$ 4,705</u>

(6) Notes Payable

The following notes payable were outstanding as of December 31:

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1980			1979		
<u>Due Date</u>	<u>Interest Rate</u>	( <u>\$000 Omitted</u> )	<u>Due Date</u>	<u>Interest Rate</u>	( <u>\$000 Omitted</u> )
		<u>Principal Amount</u>			<u>Principal Amount</u>
Mar. 13, 1981	10.10%	\$ 75,000	Mar. 14, 1980	6.50%	\$124,800
Mar. 13, 1981	7.00%	50,000	Mar. 14, 1980	6.00%	200
July 7, 1981	5.90%	<u>70,000</u>	July 7, 1980	5.85%	55,000
			July 7, 1980	6.00%	<u>15,000</u>
		<u>\$195,000</u>			<u>\$195,000</u>

The \$125,000,000 of notes payable due March 13, 1981 were refinanced on the due date at an interest rate of 10.75% due March 12, 1982.

The legislative act under which the Massachusetts Bay Transportation Authority was established provides among other things, that if at any time any principal or interest is due on any bond or note issued or assumed by the Authority and funds to pay the same are not available, the Commonwealth of Massachusetts shall thereupon remit to the Authority the amount required to meet such obligations.

(7) Plant and Equipment Improvement Program

The Authority's continuing program for mass transportation development has projects in service and in various stages of approval, planning, and implementation with a total estimated cost of \$4.66 billion. As of December 31, 1980, projects with an estimated cost of \$2.45 billion have been approved with \$1.74 billion to be provided from Federal grants, \$617 million from Authority bonds, and \$90 million from other sources. As of December 31, 1980, the Authority has expended \$1.28 billion on this program which has been financed through the receipt of \$810,865,000 of Federal grants, \$425,000,000 of Massachusetts Bay Transportation Authority General Transportation System Bonds, \$30,000,000 of Bond Anticipation Notes and other state and local grants.

The terms of the Federal grant contracts require, among other things, the Authority to utilize the equipment and facilities for the purpose specified in the grant agreement, maintain these items in operation for a specified time period which normally approximates the useful life of the equipment, and comply with the equal employment opportunity and affirmative action programs as required by the Urban Mass Transportation Act of 1964, as amended. Failure to comply with these terms may jeopardize future funding and require the Authority to refund a portion of these grants to the Federal Department of Transportation. In management's opinion, the Authority is in substantial compliance with these requirements as of December 31, 1980.

Currently, the authorized debt ceiling for MBTA bonds is \$584,000,000. Of this amount \$195,000,000 may be issued only once, and any bonds maturing or redeemed on or after January 1, 1983 may not be reissued, thereby reducing the amount of bonds which may be outstanding at any one time. The issuance of debt to provide the

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY  
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required financing for the entire program is contingent upon legislative approval of a higher authorized debt limit. Additional bond authorization needs for the entire program are estimated to be \$324 million.

As of December 31, 1980, the Authority had outstanding commitments related to the improvement program amounting to approximately \$419 million.

(8) Green Line Vehicle Program

As part of the Authority's program for mass transportation improvement, the Authority entered into a grant contract with the Urban Mass Transportation Administration (UMTA) providing for the purchase of 175 light rail vehicles, spare components, and various engineering support at an estimated project cost of \$68,305,000, \$48,084,000 to be provided by an UMTA grant. In 1972, the Authority entered into a contract with Boeing Vertol Company for the purchase of these vehicles, components and related engineering support. The 135 vehicles delivered pursuant to this contract were plagued by a variety of operating and maintenance problems which led to a series of disputes between the manufacturer and the Authority.

On November 19, 1979, the Authority reached an agreement with Boeing Vertol Company to settle the disputes pertaining to this contract. Among other things, this agreement provided that the Authority retain the 130 cars in their possession, hold a time-limited claim on 5 cars held at the manufacturer for repair, pay the remaining balance of \$3,930,000 due on the 135 cars, relinquish all claims, including the progress payments of \$6,448,000 made to date, on the 40 cars which were never delivered and release Boeing Vertol from any further liability under the terms of the contract.

In exchange for these items, Boeing Vertol agreed to pay the Authority \$40,000,000 as a cash settlement, and provide modification kits required to bring the 135 vehicles up to an agreed upon specification. The \$40,000,000 was reduced by legal fees of \$799,000, final payment on the 135 cars of \$3,930,000 and payment for various test equipment of \$900,000. The resulting proceeds of \$34,371,000 were further reduced by various warranty receivables due the Authority of \$1,967,000 leaving \$32,404,000 of cash available at December 31, 1979 which is included in the balance sheet as other special funds. The Authority established a deferred credit of \$30,786,000 resulting from this transaction. The difference of \$1.6 million between the deferred credit and the cash available represents the net of \$4,830,000 representing the Federal and local shares of the final payment on the 135 cars and the test equipment, which was included in other special funds when received in 1980, and \$6,448,000, the cash paid for forty vehicles not received. This deferred credit will be amortized over the useful life of the equipment purchased with these funds and accounted for as a reduction in the unreimbursed cost of service.

The Urban Mass Transportation Administration has concurred with the agreement provided that the cash settlement and associated interest income be used along with the funds remaining from the original federal grant (approximately \$10 Million at December 31, 1980) to provide 175 vehicles with equivalent capacity available for revenue service. Authority management intends to utilize the funds to modify

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existing vehicles and procure additional vehicles to meet this provision. Under current UMTA regulations, to the extent that the 175 car capacity requirement is not met, the Authority may be required to return a pro rata share of the total Federal grant amount received to the Department of Transportation.

In 1979, a provision was made for eight cars which were not available for service resulting in a charge to unreimbursed cost of service.

At December 31, 1980, the balance available in other special funds was \$39,904,000, which reflects the settlement proceeds from Boeing Vertol plus interest realized on the proceeds since the date of the settlement, less expenditures made for eligible project costs.

(9) Loans Payable to Federal Department of Transportation

In 1973, the Authority purchased 145 miles of right-of-way and related properties in Eastern Massachusetts from the Penn Central Railroad. This purchase was financed with a \$19.5 million (6.875% interest rate) loan from the Federal Department of Transportation. The property acquired is pledged as security for the loan.

In 1976, the Authority purchased certain assets of the B & M, including right-of-way, revenue equipment, track and related properties. The cost of \$39.5 million was financed with a \$24,173,000 (8% interest rate) loan from the Federal Department of Transportation secured by the assets purchased, a \$12,262,000 Federal Department of Transportation grant, and \$3,065,000 of local funds.

Of the property purchased, right-of-way and yards of \$20,600,500 are not presently in transit use by the Authority and are being held for future expansion.

Both of the Federal Department of Transportation loan agreements provide for the Authority to repay the principal plus accrued interest at the earlier of (a) ten years from date of purchase, (b) the date a grant agreement for actual construction of mass transportation facilities is made, or (c) the date a decision is made not to use the property for mass transportation. The Penn Central agreement also provides that 75% of the principal shall only be payable out of the proceeds from sale of the property, if sold.

In 1979, the Department of Transportation released the Authority from payment of \$1 million of principal and accrued interest, and in 1980 the Authority has recognized forgiveness of principal and accrued interest amounting to \$7,692,000. In accordance with the release, the Federal share (80%) of the total forgiveness is reflected as a Federal Grant with the local share to be contributed from bond funds.

(10) Retirement Plans

The Authority provides pension benefits to employees through a contributory defined-benefit retirement plan. The plan currently requires the payment by the Authority of an amount equal to approximately 12% of the total payroll of the members of the plan. The amount of employee and Authority contributions to the plan

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is intended to fund normal cost, interest on the unfunded liability and administrative expenses. The Authority is not legally obligated to fund the unfunded actuarial liability which approximated \$166,100,000 as of December 31, 1979, the date of the latest actuarial valuation.

Annual pension expense for the plan is computed based on a projected benefit method using a compounded annual interest rate of six percent and a salary increase factor of five percent. The cost of the plan to the Authority was approximately \$19,261,000 and \$17,087,000 for the years ended December 31, 1980 and 1979, respectively. The accumulated plan benefits and plan net assets, determined as of January 1, 1980, are as follows:

Actuarial present value of accumulated plan benefits:

Vested	\$287,545,000
Nonvested	<u>10,686,000</u>
	<u>\$298,231,000</u>
Net assets available for benefits	<u>\$206,795,000</u>

The Authority has also entered into agreements with certain salaried employees to provide supplemental pension benefits after retirement. In order to receive the benefits, the employee must have at least ten years of service and be eligible under the provisions of the contributory retirement plan. At December 31, 1980, approximately 784 employees were either receiving supplemental benefits or will be eligible to receive them upon retirement. Annual expense under this plan is computed based upon an entry age normal method, forty year amortization of unfunded actuarial liability, an annual interest rate assumption of nine percent and a salary increase factor of seven percent compounded annually. The Authority's practice, under this plan, is to provide a reserve for pension costs as they accrue.

Supplemental benefits expense was \$1,175,000 for 1980 and \$924,000 for 1979. The accumulated plan benefits and plan reserve as of January 1, 1980, the date of the last actuarial valuation, are as follows:

Actuarial present value of accumulated plan benefits:

Vested	\$6,541,051
Nonvested	<u>2,744,654</u>
	<u>\$9,285,705</u>
Reserve available for benefits	<u>\$1,560,707</u>

Additionally, the Authority is obligated to pay pension benefits to retired employees not eligible for membership to the retirement plan and life and medical insurance costs of retired employees. In 1980 and 1979, the expense to provide these benefits was \$4,042,000 and \$3,621,000, respectively.

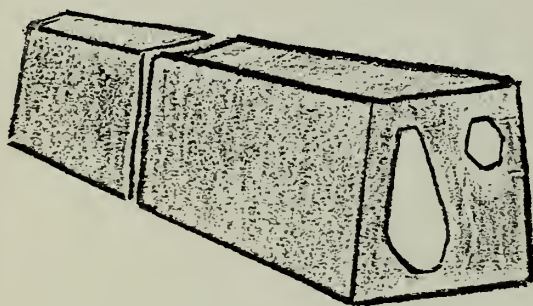
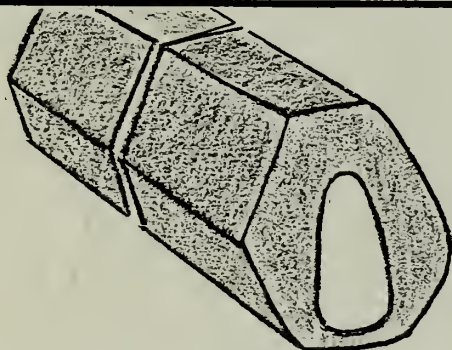
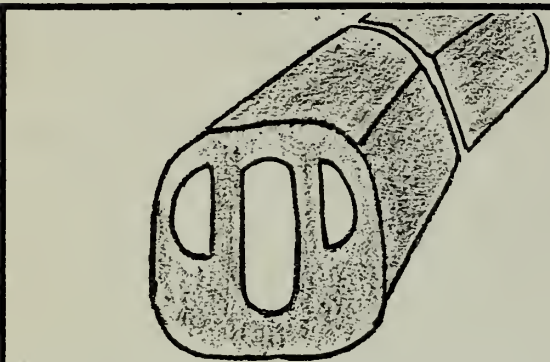
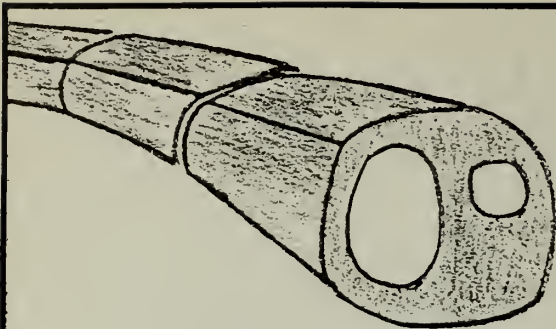
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(11) Supplementary Operating Expense Information

Operating expenses classified on a functional basis are as follows:

	(\$000 Omitted)	
	<u>1980</u>	<u>1979</u>
Vehicle Operations		
Wages	\$ 60,516	\$ 54,978
Other	58,009	46,870
	<u>\$118,525</u>	<u>\$101,848</u>
Vehicle Maintenance		
Wages	\$ 25,369	\$ 23,769
Other	25,973	21,971
	<u>\$ 51,342</u>	<u>\$ 45,740</u>
Non-Vehicle Maintenance		
Wages	\$ 17,006	\$ 16,909
Other	13,692	13,877
	<u>\$ 30,698</u>	<u>\$ 30,786</u>
General Administration		
Wages	\$ 17,814	\$ 15,438
Other	23,487	21,251
	<u>\$ 41,301</u>	<u>\$ 36,689</u>
Depreciation & Amortization	<u>\$ 27,498</u>	<u>\$ 25,757</u>
	<u>\$269,364</u>	<u>\$240,820</u>





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